Vol. XXVI. Part 9.

[Registered at the General Post Office, Melbourne, for transmission by Post as a Newspaper.]

The Journal of the Department of Agriculture of Victoria, Australia.

Sept. 1928.

PRINCIPAL CONTENTS

Standard Herd Test—Report for Year 1927-28

Feeding of Dairy Cows

Manure Trials with Potatoes

Rind-Marking of Citrus Fruits

Winter Egg-Laying Test

Asparagus

The Root Borer

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THE JOURNAL

OF

THE DEPARTMENT OF AGRICULTURE,

VICTORIA, AUSTRALIA.

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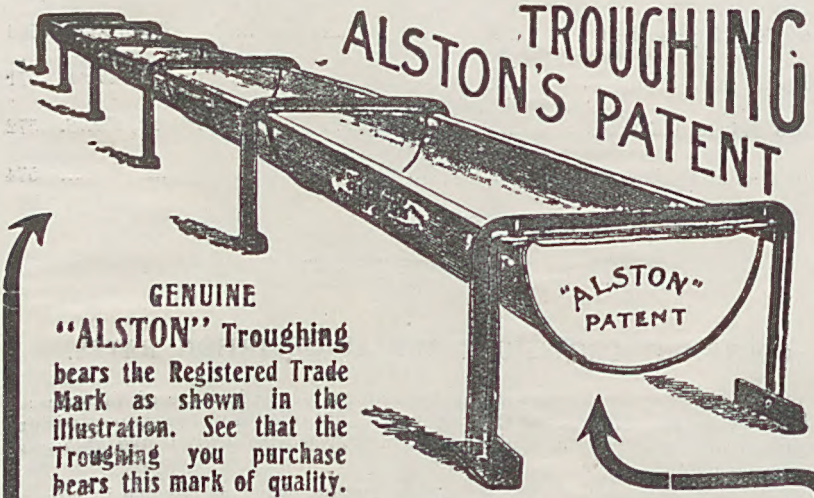

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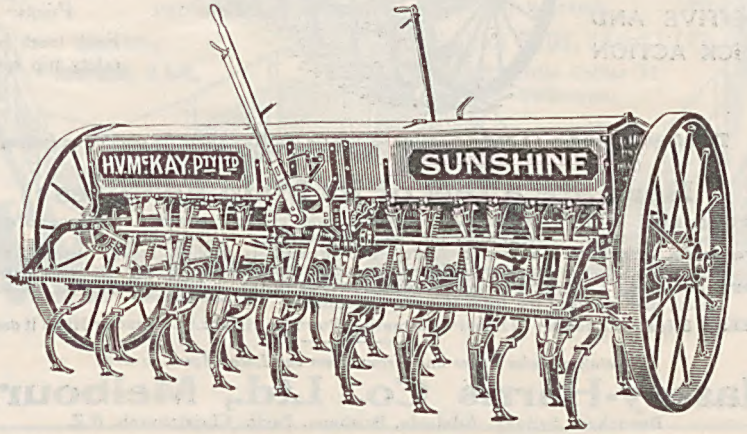

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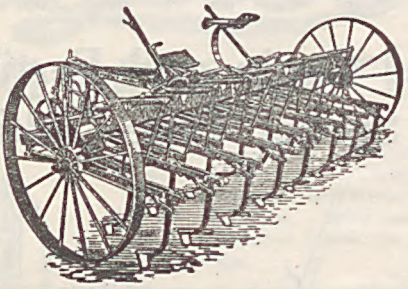

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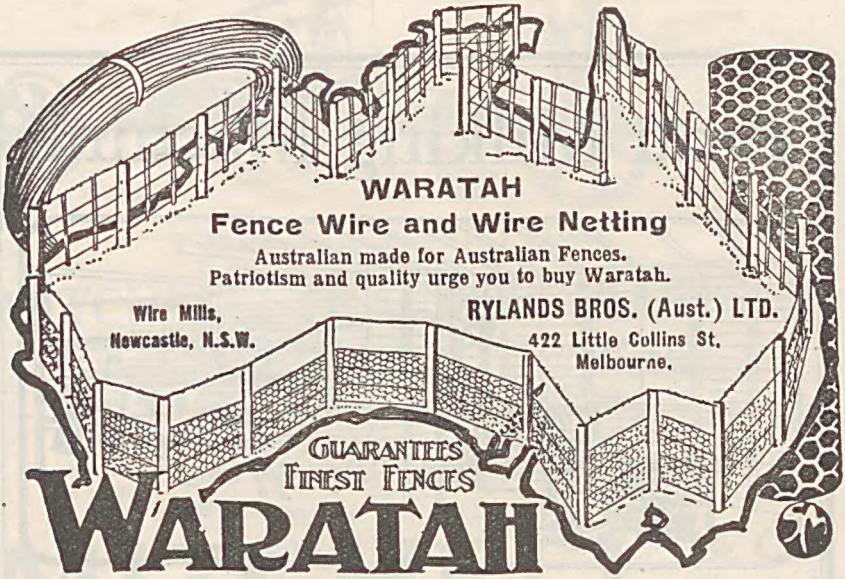

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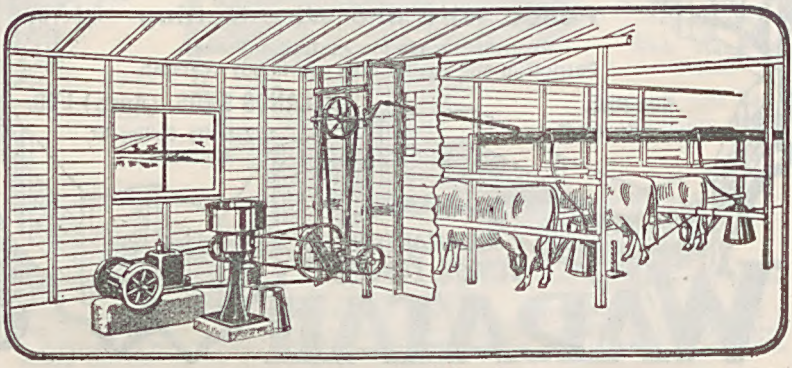

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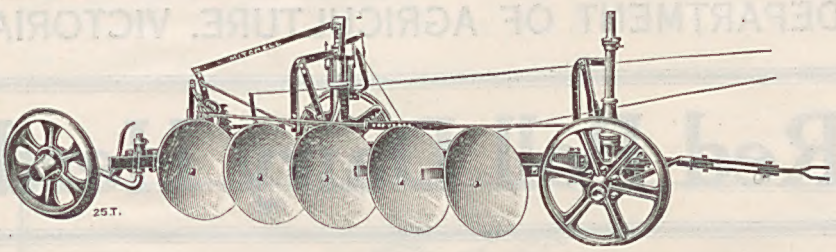

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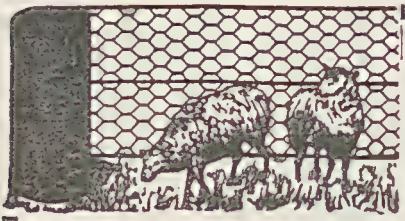

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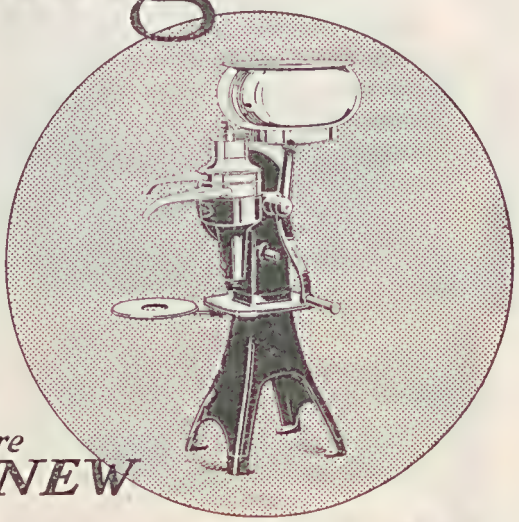

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THE JOURNAL

OF THE

Department of Agriculture

OF

VICTORIA.

Vol. XXVI. September, 1928. Part 9

STANDARD HERD TEST.

REPORT FOR 1927-28.

By A. J. Gill, Senior Herd Tester.

The Economical Feeding of Stock.

In submitting the Annual Report on the Government Standard Herd Test, it has been the custom to deal with matters of special interest to the breeder and farmer. The reports of the past two years have dealt with Testing—its value, and the lessons we have learnt from it—and Breed Improvement and the crossing of strains adopted by stock-owners. On this occasion it is intended to deal with the question of Feeding.

To understand the values of different foods and their uses means not only higher yields but also more profitable production. Therefore, while dealing very briefly with the subject, it will be our aim to give a few simple points which will enable a beginner to grasp some of the fundamental facts relating to foods and their uses, and to interest him and arouse in him a desire to experiment, and so learn more for himself.

The balancing of rations and the ascertaining of results from the use of concentrates are full of interest, and breeders who are testing their stock usually become keen students of feeding problems.

Unfortunately, very little research work in connexion with the dairying industry has been carried out in Victoria. The Government Standard Herd Test, however, has been of great assistance to breeders and farmers in raising the standard of our stock and increasing production, but we need to go still farther, and to my mind, the testing scheme will not be complete until we can show the cost of production as well as the records of butter-fat yielded. Our most valuable animals are those capable of producing most economically, and it does not follow that these are the cows with the highest records.

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Some years ago, the theory was advanced, and is still held by many, that every pound of food consumed above the amount required for body maintenance means extra profit. Up to a certain point this is no doubt correct. For instance, a cow may produce profitably up to 400 or 500 lb. of butter-fat, but the cost of raising her yield beyond that figure may not pay for the additional food required. The limit of profitable production would, of course, vary considerably according to the individuality of each cow. Some of our champion cows have the faculty for turning food into milk developed to a wonderful degree, and every pound of food appears to be accounted for, while others again may produce heavily, but not profitably.

Fairy of Willow Park. (Highest producing Mature Cow.)

(Born 28.9.21.)

Owner—Mr. W. K. Atkinson.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1923–24	9,498	4·00	380·12
1924–25	13,225	3·99	527·52
1925–26	13,892	4·11	570·46
1927–28	15,084	4·28	645·81

The steam engine, I think, provides an apt parallel. Most farmers have had experience with the steam-driven threshing-machine of a few years ago that went from farm to farm. It was the landholder's duty to supply wood and water, and with the various engines doing exactly the same class of work, the different amounts of fuel and water required was remarkable. In some cases the job of stoking was a continual one; in others it was a comparatively light task—every gallon of water and every block of wood showed results. So it is, to some extent, with our cows; some have the capacity for economical production developed to a far greater degree than others—these are the families that will

supply the most profitable dairy stock. Some experiments in this direction would, I am certain, give good results.

In other parts of the world, experiments have been carried out in order to ascertain whether conformation could be taken as a guide to economical production, and from what can be gathered from results, it would appear to indicate that animals showing beef tendencies do not produce as profitably as those of correct dairy types.

Eco Sylv Belle (imp.) (Reserve Champion Cow.)

Owner—Mr. O. Syme.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1923–24	15,178	3·73	566·41
1924–25	16,586	3·73	625·57
1925–26	14,511	3·78	548·05
1927–28	18,531	3.43	636·36

The Feeding of Dairy Cows.

During the several years that the Government test has been operating certain facts regarding feeding have been established. Many breeders have gradually changed their methods. The rough and ready system, used by many, of allowing a cow 1 lb. of concentrates for every 3 of milk yielded proved extravagant. Grains, cakes, and meals were used in far greater quantities than was necessary. No allowance was made for the pasture. It was discovered that, in many cases, the quantity of concentrates could be considerably reduced; in some, indeed, by one half, without affecting the milk yield.

For long it was not realized that the young grasses and clovers were more valuable for milk production than any concentrates, and that milk produced from grass-fed cows and the resultant dairy products were more valuable as a food than those from stall-fed animals. Indeed, the fact should be stressed when Australian butter is being marketed

overseas, that it is the product of cows fed in good clean pastures all the year round, and consequently is of greater food value than that of countries not so favorably situated.

The test has shown us the value of a good water supply and the absolute necessity for a supply of mineral matter.

The great and small plants in the forest and the animal's body are all formed from the same substances, but in different proportions. The plant and the animal's body consist essentially of protein, carbo-hydrates, fats, mineral matter, and water; the plant draws these from the soil and air; the cow obtains them from the plant.

Messrs. Smith and Sons' Halecote Opera Girl. (Champion Cow.)

(Born 8.8.22.)

Season.	Milk. lb.	Test.	Butter-fat. lb.
1924–25	12,484	3·27	408·28
1926	18,940	3·43	649·96
1927–28	22,351	3·41	761·64

Consequently, in every essay that we read on feeding, we find the substances protein, carbo-hydrate, fat, and mineral matter, frequently mentioned, and, therefore, it is necessary to understand the meaning of these terms. Protein is sometimes referred to as alluminoids. This substance is the most complex of all the food contents. It consists of oxygen, hydrogen, carbon, nitrogen, and mineral matter. Its chief value lies in the nitrogenous constituents, the quantity of which in different foods varies considerably, the average amount being 16 per cent.

The value of the proteins of different foods, though closely related chemically, varies a great deal according to the different proportion of the constituents. Protein in its most valuable form is found in the white of an egg and in casein of milk.

Lucerne, clovers, trefoils, and all leguminous plants contain a high percentage of protein. Leguminous grains, such as peas and beans, are rich in protein; cereal grains contain much less. In grains or seeds it is found chiefly in the outside layers. The leafy portions of young grass are also valuable as a source of protein.

That portion of the food known as carbo-hydrates is formed of carbon, hydrogen, and oxygen, and consists chiefly of such substances as starch, sugars, gums. As carbo-hydrates do not contain nitrogen they are altogether incapable of forming muscles, organs, &c. Their function appears to be solely to provide heat and the energy required for movement and for the digestion of food. Heat and energy are closely related and are interchangeable. Heat applied to water

Bolobek Trixy. (Highest producing Junior 2-year-old.)

Owner—Mr. O. Syme.

Milk.	Test.	Butter-fat.
lb.		lb.
14,642	3·73	545·45

generates steam, which supplies energy to drive machinery. Energy applied by rubbing two sticks together provides heat. These examples illustrate how both are connected.

Fats of the food consist of carbon, hydrogen, and oxygen, but no nitrogen. The functions of fats are similar to those of carbo-hydrates; there is, however, more combustible carbon and hydrogen in fat, and 1 lb. of fat is capable of producing as much heat as $2\frac{1}{2}$ lb. of starch or sugar. That is why fat contained in food is valued at two and a half times as much as the carbo-hydrate content.

In addition to protein, carbo-hydrates and fat, a certain amount of fibre is necessary. The fibre assists the bowels in functioning properly and helps in the regurgitation of the food for the chewing of the cud. Further, it stimulates the action of the stomach in digestion

and regulates the passage of the food through the intestines. The cow's stomach is so formed that it can receive large quantities of comparatively coarse food: on the other hand, the pig can scarcely digest fibre at all.

The Necessity of Minerals in Feed.

Here, as in other parts of the world some years ago, through feeding liberal supplies of concentrates, the actual mineral requirements were completely overlooked, with sometimes disastrous results. The breaking-down of cows was attributed to an over-supply of concentrates, whereas it was really due to the fact that the meals and grains, by increasing the flow of milk, had created an extra demand for mineral matter, which the concentrates were unable to supply.

Messrs. Flack & Gamble's Ashlyn 71.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1923–24	10,795	3·90	400·72
1925–26	13,308	3·83	512·67
1926–27	15,333	3·93	603·28

Each gallon of milk contains over an ounce of solid mineral matter. Besides supplying this, the cow must provide for her own body requirements and that which is necessary for the young calf. She must obtain it from somewhere, and if sufficient is not supplied in her food, she draws on her skeleton, which is her storehouse, and when that source is exhausted she breaks down. I have seen a comparatively young cow which, owing to an inadequate supply of mineral food, walked in as slow and painful a manner as an aged person badly affected with rheumatism.

Mineral matter is essential for the health of all animals; many farmers are familiar with what is termed cripples in young animals, caused by deficiency of mineral matter in the pasture, and know that when this is top-dressed the trouble disappears. In many cases where

mineral matter has been given to milking cows by breeders whose herds were undergoing test, the results have been surprising.

Lime is one of the chief constituents required in the formation of the skeleton of the body, and it is also necessary as an aid in the digestive process. Unfortunately, lime is frequently lacking in Victorian pastures, and there is also a marked deficiency of it in all cereal grains.

Bone chewing is a common sign of mineral deficiency, and to overcome this bone flour (finely grounded bone) is fed to cows regularly; slaked lime may also be given. It is always a good plan to allow stock to have access to a trough containing lime water. Legumes and leafy

Mr. O. Syme's Banfield Topsy 13th.

(Born 30.8.20.)

Season.	Milk. lb.	Test.	Butter-fat. lb.
1924–25	14,455	4·10	593·29
1925–26	16,072	3·88	624·11
1926–27	16,079	3·95	634·85

pastures are fairly rich in lime and mineral matter, and cows grazing on such feed would not require as liberal an allowance of bone flour as those on ordinary pasture land. Take, for instance, a cow giving 4 gallons of milk; this would contain 4.8 oz. of mineral matter. Even on good pastures she probably would require 2 oz. of mineral matter daily. As the grass goes off, this amount would be increased, for dry pasture is always of lower mineral content than is leafy green grass. Her feed would then be supplemented by concentrates and chaff, which are also lacking in mineral, consequently the supply of bone meal would have to be almost doubled.

All cows should be able to obtain a liberal supply of salt; this is necessary for the formation of acid in the stomach so essential an aid in the digestion of food.

Another substance that has been much discussed of late is iodine. It is a substance obtained from the ashes of seaweed, and now included in all mineral mixtures for stock. A shortage of this substance in some districts has seriously impaired the health of human beings and stock as well. One of its functions is believed to be the regulating of the metabolism of the body. In certain districts throughout Victoria goitre is said to be fairly prevalent owing to the lack of iodine in the soil.

The same deficiency in the soil occurs in parts of United States of America. One report states that in the Yellowstone River Valley there has been very heavy losses among young pigs, lambs, calves, and colts owing to thyroid disease, which follows a lack of iodine. Many pigs were born dead, some in a hairless condition, and

Mr. A. A. Broad's Daffodil of Grangelea. (Highest producing Senior 2-year-old.)

(Born 23.10.24.)

Season.	Milk. lb.	Test.	Butter-fat. lb.
1926–27	7,697	5·63	433·41
1927–28	9,350	5·35	499·79

some with enlargement of the thyroid gland. The trouble disappeared when potassium iodide was administered to the pregnant sows. There are many other instances of the beneficial effects of iodine when given to ewes and mares. Iodine may be prepared by mixing 1 oz. potassium iodide in a gallon of water; a dose is a tablespoonful daily; it may be given in the feed.

A simple mineral mixture is one made of equal parts of ground limestone, bone-meal, and salt. Another consists of bone-flour 40 lb., lime 25 lb., salt 40 lb., sulphur 15 lb., potassium iodide 5 oz. These mixtures should be placed in a convenient place so that the cows could have access to them whenever they feel inclined.

Milk is undoubtedly the most valuable and perfectly blended food that nature has placed within the reach of man, and one of its important features is its high mineral content, which makes it singularly valuable for growing animals. Its percentage of calcium is high, and another component is casein, a particularly valuable protein containing phosphorus. One peculiar point worth mentioning is that milk is deficient in iron, and the young animal contains sufficient iron in its tissues to supply its needs until it is able to consume other food, such as leafy substances. A person living on milk for any lengthy period would become anemic, iron being a necessary constituent of the blood.

Cherry of Willow Park. (9198) Vol. V. M.S.H.B. of Aust.
Owner—Mr. W. K. Atkinson, Swan Hill.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1920–21	8,733	3·72	324·67
1921–22	12,017	3·94	474·06
1922–23	15,880	4·00	635·92
1923–24	15,036	3·97	596·81
1924–25	16,245	3·83	622·69
1925–26	18,076	3·80	686·34
1926–27	16,245	3·88	629·94

A Good Water Supply Essential.

As a supplementary food, milk has no equal. It is sometimes spoken of as a water-rich food, for 87 per cent. of its content is moisture. A cow's yield of five gallons of milk would contain 4.350 gallons of water; besides this she would exhale approximately 40 lb. of moisture every 24 hours.

Water plays an important part in the digestion of the food, regulation of the body temperature, and the elimination of waste matter, and helps to supply mineral matter. Clear running water should be always available. Cows will milk and thrive better where supplied with good clear water than where they have to draw their requirements

from muddy, stagnant water-holes. A poor inefficient water supply will cause the flow of milk to fall rapidly. Reduce a cow's water supply and she will at once commence to dry off. Enclosing cows for twelve hours out of the 24 in a paddock where there is no water supply is a bad practice and means a decreased milk yield. When we consider the fact that a cow may require 20 to 30 gallons of water a day we will realize how necessary it is that water should be always within easy reach.

Feeding a Balanced Ration.

In feeding stock we must supply them with that which will allow them to obtain the certain constituents they require and the correct amount needed. If too much of one substance and too little of another is given the body cannot function properly, consequently, the constitution must weaken.

Students of feeding methods have discovered that many diseases among human beings are due to faulty diets. Pellagra, a disease that has been a scourge in parts of Europe for centuries, and Beri Beri—a complaint common in eastern countries—disappeared when correct dieting was adopted. Scurvy, a disease which, a century ago, caused so much suffering amongst sailors living on corned beef with very little vegetable foods for long periods, was cured when fresh fruit was supplied. Rickets amongst children is another disease due to incorrect diet, and probably many more ailments will be traced to faulty feeding.

A very interesting example of the results of methods of feeding has been the efforts to rear lions in captivity. With very few exceptions these have failed, as the young have, in many cases, suffered from rickets, and were too deformed to be of any use for exhibition purposes. It was the custom to feed them on muscle tissue, attached to a hard bone from which they could chew very little. A study of the animals in their native state revealed the fact that when they killed an animal, they invariably ate certain portions. Investigations showed that their diet should consist of liver and other glandular organs and such bone as shoulder blades and rib bones, which could be chewed and eaten, and that muscle tissue should be fed sparingly; at intervals of a few days, they should be given rabbits and pigeons, the entire carcasses of which could be eaten. With this knowledge lions can now be reared in captivity and grow into beautiful animals.

If young pigs be fed solely on grain and water, and no greenstuff or milk be allowed them, they will stop growing. Sows fed solely on root crops will frequently abort, or maybe their young will be misshapen. If fed solely on grain, the results would be disappointing, and a number of malformed and dead pigs would be found in every litter. The addition of milk or green pasture would supply the deficiency.

Wherever feeding tests with grain alone have been made, they have failed, for certain essential constituents are absent from the grain. A scientist, in some experiments with rats, has discovered that wheat alone, oats alone, maize or seeds alone, failed to induce any growth, or to maintain life for a long period. But it was found that when leaves were mixed with the grains considerable growth could be secured. A mixture of 60 per cent. rolled oats and 40 per cent. lucerne leaf

gave better results than those obtained from wheat and lucerne leaf, or maize and lucerne leaf, while poorer results were obtained from peas and beans.

A consideration of the functions of the two organs of the plants may help us to understand the reasons. A grain or seed is the storehouse which supplies a young plant with sufficient nutriment until it has adopted a root and leaf system, at which stage it is independent, and can secure everything that is necessary from the soil and the air.

The leaf forms the laboratory of the plant; it is rich in cells which, when alive, are always actively functioning. The chlorophill (the green pigment) enables it to utilize the sunlight. From the air and soil moisture is drawn as well as the elements required to build up starch, sugars, fat, and protein, all of which are necessary for the growth of the plant. This process of synthesizing the protein, carbo-hydrates or

Harebell of Springhurst.

(Born 13.3.22.)

Owners—Messrs. D. Cameron and Sons.

Season.	Milk.	Test.	Butter-fat.
	lb.		lb.
1924–25	7,851	5·94	466·71
1925–26	8,419	5·98	503·18
1926–27	9,678	6·16	596·57
1927–28	10,637	5·65	600·71

other substances certainly calls for certain chemical substances that are not present in the seed, and explains why the leaf is such a valuable food.

There is, however, considerable difference in the value of different leaves as food. Some are thin cellular structures carrying little reserve of food and relatively little inert skeleton tissue. Others are fleshier and have become, to a certain extent, storage organs containing a considerable amount of reserved food similar to that stored in the centre of the grain. The dietary properties of such leaves are somewhat reduced by the more inert tissue and reserve food substances. The cabbage leaf gives a good example of the fleshy type. This class of leaf possesses, to some degree, the dietary value of grains and could be classed between grains and thin leaves. The less a leaf partakes of the function of storage tissue the more pronounced will be its value as food. The lucerne leaf is an example of the thin leaf of highly nutritive value.

The Feeding of Concentrates.

When feeding stock, especially milking cows, we find it necessary to supplement the pasture by giving concentrates. Grains and their by-products come under this heading. The most important grain grown is wheat, which possesses valuable proteins. These proteins contain glutinous properties which make possible the formation of dough, being sufficiently tenacious to permit of the leavening by means of yeast, and so a light springy bread is secured. As wheat is so valuable for the manufacture of flour, the whole grain is seldom fed to animals. The germ, which forms about 1.5 per cent. of the whole kernel, is rich in oil and protein. The oil content

Carrie 3rd of Queen's Vale. (Highest producing Junior 3-year-old.)

(Born 8.4.23.)

Owner—Mr. W. H. Hurrey.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1924–25	5,274	6·50	342·96
1925–26	7,321	6·27	458 67
1926–27	7,832	6·93	542·78

tends to become rancid, and would spoil the keeping quality of the flour; it is, therefore, thrown off with the offal—bran and pollard. The bran forms the outside covering and comes away in flakes when the grain is broken. In the bolting a coarse flour is rejected which is known as pollard. In whole wheat the carbo-hydrate constituents are high, and the nutritive ratio is 1 to 7.2. This means that for every pound of protein contained there is the equal of 7.2 lb of carbo-hydrates.

The nutritive ratio is arrived at in the following manner. Wheat contains 10.2 per cent. protein, 69.2 per cent. carbo-hydrate, 1.7 per cent. fat. Now, as stated before, 1 lb. of fat will produce as much heat as $2\frac{1}{2}$ lb. of carbo-hydrates; thus to bring the fat to the same value as

the carbo-hydrates, we multiply the quantity of the fat by $2\frac{1}{2}$, to the result add the percentage of carbo-hydrates; then by dividing by the percentage of protein, we obtain the ratio of protein to the heat and energy-forming food. Thus—1.7 fat $\times$ $2\frac{1}{2}$ = 4.25 + 69.2 carbo-hydrates = 73.45 ÷ 10.2 = 7.2. Ratio 1 to 7.2.

A cow requires food containing 1 lb. of protein to every 5 and not more than 6 lb. of carbo-hydrates. We term that a balanced ration. Whole wheat is not a balanced ration when fed alone. It also has a somewhat constipating effect on stock, and requires the addition of some food rich in protein so as to balance the excess carbo-hydrates.

Bran contains 11.2 per cent. protein, 42.2 carbo-hydrates, and 2.5 fat; it has a nutritive ratio of 1 to 4.3. It is a light bulky food, and the cow's stomach can utilize fairly large quantities. It has a laxative effect and is rich in phosphoric acid, and forms a valuable concentrate. In any mixture of concentrates, I would advise up to 50 per cent. bran.

Pollard contains 12.2 per cent. protein, 53.4 carbo-hydrates, and 3.8 fat—a nutritive ratio of 1 to 5.1. Pollard is used largely by pig breeders, but owing to its density, the cow is usually unable to eat much more than 2 lb. daily. If too much be given, a cow will sicken; there is a loss of appetite and a fall in milk results. The addition of $1\frac{1}{2}$ to 2 lb. to a cow's ration often has a beneficial effect, though it has to be remembered that pollard, too, has a somewhat constipating effect.

Gristed oats is a valuable concentrate. Like bran, it is a light bulky form of food, and the cow's stomach can deal with fairly large quantities. It contains 9.2 per cent. protein, 47.3 carbo-hydrate, and 4.2 fat—a nutritive ratio of 1 to 6.2. Stock eat it with a relish. It is a valuable food for young cattle, and may be used to form a large portion of the grain mixture. On account of the variation in the protein and carbo-hydrates, mixed grains and meals give better results than any single variety. One point that should be remembered, especially when grains are dear, is that from 25 to 33 per cent. of oats consist of hulls.

Maize grain, though fed to pigs, is seldom given in its entire state to cows. The offal obtained in the manufacture of maizena, starch, and glucose, viz., pollyfeed and maize oil meal, are, however, in common use among dairy farmers. Maizena, which is used as human food, like flour, is the centre of the grain—the germ—the outside layers being rejected. In the manufacture of starch, maize is coarsely ground, and the starch carried off in suspension in water and allowed to settle. Glucose is the result of further treatment of the starch with acid.

About 30 per cent. of the germ consists of oil, which oil is sold commercially. The glutinous residue is called gluten meal, and is mixed with the offal. The whole maize grain has a high carbo-hydrate content; its analysis is 7.8 per cent. protein—66.7 per cent. carbo-hydrate, 4.3 per cent. fat. It has a nutritive ratio of 1 to 9.9, and, therefore, would not form a balanced food alone.

Pollyfeed contains 14 per cent. protein, 52 per cent. carbo-hydrates, 2 per cent. fat. Its nutritive ratio is 1 to 4.

Maize oil meal contains 18.7 per cent. protein, 27 per cent. carbo-hydrates, 20.9 per cent. fat—nutritive ratio 1 to 3.2.

These products are both valuable forms of concentrates. They have, however, astringent properties, and should be fed in connexion with other concentrates possessing laxative qualities—with bran for

instance. A mixture consisting of 5 lb. of bran, 3 lb. polly feed, 2 lb. maize oil meal would have a nutritive ratio of 1 to 4.2. Maize proteins have a slightly lower value than the protein of wheat; they do not contain the same glutinous properties, and, consequently, the ground products cannot be made into dough. The mineral deficiencies of maize are similar to those of wheat.

Barley is used by some breeders in a gristed form for cows, but is valued more as fattening food for pigs. Its contents are 9.6 per cent. protein, 63.5 per cent. carbo-hydrates, 2.1 per cent. fat—a nutritive ratio of 1 to 7.1. Samples of English barley may possess a nutritive ratio of 1 to 6. As a feed English barley grain is superior to Cape barley. Its deficiencies are somewhat the same as those of cereal

Tiny Choice of Belgonia.
(Born 22.12.20.)
Mr. P. J. Maloney.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1922–23	6,254	6·13	383·54
1923–24	5,761	5·91	340·45
1926–27	10,383	6·02	624·56

grains. Some of our breeders who feed considerable quantities to their cows have obtained good results. The addition of another protein-rich food to it would make a good mixture. However, with young succulent grass or lucerne there should be no need to add any protein-rich food.

Another cereal grain that is worth mentioning, though very little grown and used in Victoria, is rye. Analysis shows it to contain 9.6 per cent. protein, 63.9 per cent. carbo-hydrates, and 1.1 per cent. fat, and it has a nutritive ratio of 1 to 6.8. It is a hardy cereal, and will grow comparatively well on soil where other crops may prove failures. It is useful for early greenstuff, but as it matures, the stems become very tough and hard, and are sometimes used by saddlers as stuffing for horse collars; consequently rye is of very little use for

cattle fodder as hay. The grain makes a good food for farm animals, but where more valuable crops could be raised one would not recommend the growing of rye to any extent.

Leguminous grains such as peas or beans are sometimes fed in the form of meal. Pea meal is much richer in protein and mineral matter, especially lime, than are cereals. It consequently is valuable to supplement a grain mixture, raising the protein content, and assisting to provide the required mineral matter. Pea meal contains 16.8 per cent. protein, 51.8 per cent. carbo-hydrates, and 0.7 fat—a nutritive ratio of 1 to 3.2. Owing to the fineness and density of the meal, it must not be fed in as large quantities as other grains, but it is a valuable adjunct to any mixture. Its high price deters its general use, and it would be well worth the while of farmers who can grow peas, to crush a certain amount of meal each year. Peas are a profitable crop, and if not wanted on the farm, they find a ready market. The straw is a valuable roughage.

Two seed meals are put on the local market—linseed meal and cotton seed meal.

Linseed meal is the seed from the flax after the oil has been extracted. The old method of extracting oil was by grinding the seed and using pressure. This left a fair percentage of oil. The modern process is to grind the seed and then use a solvent which dissolves the oil, but does not dissolve the other constituents. The solvent containing the oil is then filtered under pressure, and the solvent separated by distilling. By this method more of the oil is extracted, but is said to injure the digestibility of the proteins, and so lower its feeding value.

The fats of linseed and cotton seed have a greater feeding value than those of grains, and are consequently more valuable. Linseed meal contains 26.1 per cent. protein, 38.5 per cent. carbo-hydrates, and 6.5 per cent. fat—nutritive ratio, 1 to 2. It has laxative properties. It is a valuable concentrate to mix with grain mixtures deficient in protein content; but, on account of its density, the cow's stomach is unable to deal with large quantities, and it is usually not wise to feed more than 2 lb. daily. Some cows may be able to digest more than this if the quantity be increased gradually, but there is the danger of sickening them. It is a valuable feed for young stock.

Cotton-seed meal consists of the seed from which the oil has been extracted, and the husks removed. Analysis shows that it contains 34 per cent. protein, 8.5 per cent. fat, 20 per cent. carbo-hydrates—a nutritive ratio of 1 to 1.2. Thus, like linseed meal, it is a valuable food to add to mixtures deficient in protein. It is not advisable to include over 2 lb. in a cow's daily ration. Fed in a small quantity, it appears to give good results, though when it was first used in this State, some cows after being fed on it for a few days seemed to sicken suddenly. The trouble, however, was probably due to some toxin it contained. Though a valuable cattle food it is not suitable for pigs.

Brewers' grains, when fresh, are eaten readily by cows, but as they are sold in a wet condition, it is necessary that they should not be held long, and are used principally by dairymen in close proximity to breweries. In the process of malting, the aim is to turn the starch into sugar, and the sugar into alcohol, consequently the treated grain contains a higher percentage of protein than before treatment, and if placed on the market in a dried state would be of considerable value to

dairy farmers. Its contents are (wet), 3.9 per cent. protein, 9.3 per cent. carbo-hydrates, and 1.4 per cent. fat; dry—20 per cent. protein, 38 per cent. carbo-hydrates, and 5.7 per cent. fat. Nutritive ratio—wet, 1 to 3.2; dry, 1 to 2.6.

Cocoanut oil cake is also sometimes used to mix with grain concentrates. It contains protein, 16.4 per cent.; carbo-hydrates, 42.2 per cent.; fat, 9.1 per cent.—a nutritive ratio of 1 to 3.9. If soaked in water, it forms a sort of meal with a pleasant smell and taste. Up to about 3 lb. per day may be fed, with other grains, to get the best results from it.

Other foods on the market are oat branning, and barley and oats, and pollard. Branning varies in quality according to the amount of husk and hull it contains. Some samples show an analysis of 14.9 per cent. protein, 51.8 per cent. carbo-hydrates, and 7.9 fat—a nutritive ratio of 1 to 4.8. However, probably not many samples would be equal to this, and I would not advise feeding more than 3 or 4 lb. daily in any mixture of concentrates.

Molasses is a food rich in sugar, and contains 62 per cent. carbo-hydrates, but only about one-half per cent. protein. It has laxative properties, and makes food tasty. If mixed with hot water, it can be sprinkled over chaff. It is largely used during times of drought, and when, as sometimes happens in extreme cases, farmers have to use the thatch of stacks and shelters to keep their cattle alive, this poor food is made palatable by sprinkling molasses on it. Its laxative qualities make it an excellent food in dry seasons, as it lessens the liability of animals to impaction. Sometimes it is soaked into lucerne chaff, the pith of sugar-cane, cotton-seed meal, or beet pulp, and then put on the market in a dry condition. Molasses may be fed in varying quantities up to 2 lb., which may be considered the maximum allowance per cow daily.

Root crops most frequently used in Victoria are mangolds, potatoes, and sugar beet. Their chief value lies in their carbo-hydrate content and succulence, the protein content being low.

Mangolds—1.1 per cent. protein, 5.4 per cent. carbo-hydrates, 0.2 per cent. fat; nutritive ratio, 1 to 5.4.

Potatoes—0.9 per cent. protein, 16.3 per cent. carbo-hydrates, 0.1 per cent. fat; nutritive ratio, 1 to 18.4.

Sugar beet—0.8 per cent. protein, 18.5 per cent. carbo-hydrates; nutritive ratio, 1 to 23.1.

Sugar beet pulp—0.6 per cent. protein, 7.3 per cent. carbo-hydrates, 0.4 per cent. fat; nutritive ratio, 1 to 12.1.

Roots contain a large percentage of moisture—mangolds may contain up to 89.3 per cent., potatoes 76.0 per cent., beet 88 per cent. They may be fed in amounts up to 30 or 40 lb. per head daily. Sugar beet pulp, that is slices of beet after the sugar content has been extracted as far as possible is usually sold in a wet condition, and consequently its use is practicable only in the vicinity of a factory. In a dry condition, it would form a valuable roughage, and should find a ready sale.

Potatoes, though low in protein content, sometimes seem to give better results than their analysis would lead one to expect. It may be that being fed usually in the late autumn and early spring, when the grass has a nutritive ratio of 1 to 3, and 1 to 2½, their value lies in the

fact that they assist in balancing the ration. However, scientists claim that the protein of the potato, though of lower value than that of grains for the promotion of growth, is of extraordinary value for repair work, and the replacing of the tissue substances lost through daily metabolism.

Crops for Silage.

Summer fodder crops grown in Victoria include maize, Japanese millet, Sudan grass, sorghum, and other plants of this family. These are summer crops requiring a warm climate. They should not be planted till after all danger from frosts is past, and they are killed by the first frosts in late autumn. They form valuable succulent roughage through the summer months.

Maize lends itself particularly to the making of silage, and it is rare to see a failure in such silage either in stack or silo. Crops of up to 30 tons to the acre are possible, so very little acreage is required to provide several tons of silage, which forms a valuable reserve for the farmer, and will keep indefinitely under fair treatment. Silage may be made in stack, overhead silo, or pit in the ground. Farmers are gradually awakening to its worth. In the United States of America, the value is appreciated, and in districts where the climate is not suitable for maize, sunflowers are grown and stored as silage, the feeding value of maize silage and sunflower silage being somewhat similar.

Though to-day the crops most used for silage are oats and maize, it may be made from other crops. I have seen very fine silage made from grass tramped into a pit. Soft-leaved crops like rape contain a great deal of moisture; this makes them somewhat unsuitable for ensilage. Clovers are rather difficult to handle, and I would recommend storing them as hay.

Japanese millet is a crop with a higher feeding value than maize or sorghums. It may be eaten off, or cut several times, and will continue to grow until frost comes. It may be stored as silage, or as is now being done in some places, made into hay. Sudan grass has similar properties.

Sorghums may also be cut several times during the year, and will keep growing till the first frost. Care must be exercised in feeding sorghum during its growing period, for it may then be dangerous to stock. If fed during its immature stage, it should be cut the day it is to be used, and allowed to wilt for some time. There is no need for this precaution, however, when once the sorghum flowers. It makes good silage.

Hereunder are given the analysis of maize and sorghum:—

Maize—1.0 per cent. protein, 11.6 per cent. carbo-hydrates, 0.4 per cent. fat; nutritive ratio, 1 to 12.6.

Sorghum—0.6 per cent. protein, 12.2 per cent. carbo-hydrates, 0.4 per cent. fat; nutritive ratio, 1 to 22.

Both these crops are chiefly valuable as a source of carbo-hydrates, being low in protein; consequently they would require balancing by foods rich in protein.

The most important of all summer crops is lucerne, rightly termed the king of fodders. It has a high feeding value, grows strongly, and may be cut up to five times during its season. It contains 3.7 per cent. protein, 7.3 per cent. carbo-hydrates, and 0.6 per cent. fat—a nutritive

ratio of 1 to 2.3. It is also rich in lime and potash, and as a milk-producing feed is hard to surpass. It is a valuable food to feed with foods low in protein content, and makes a hay that is of exceedingly high feeding value. It is chiefly cultivated on irrigated areas in the northern parts of Victoria, but some farmers have grown it successfully in Gippsland, and probably in the future it will be grown more extensively in non-irrigated districts.

Red clover appears to be giving good results in parts of Gippsland. It contains protein 2.9 per cent., carbo-hydrates 14.8 per cent., and fat 0.7 per cent.—nutritive ratio 1 to 5.6. It has a fairly high lime content, and makes valuable green fodder or hay.

Summer crops are in the majority of cases fed green. Most of the hay stored on farms is derived from cereal crops. Usually, in Victoria, oats or wheat is grown; sometimes they are mixed. Lucerne and grass are also cut for hay. For cow feed, oaten hay is the most valuable of

Greenvale June Rose 2nd. (Highest producing Senior 3-year-old.)
Owner—Mr. J. Plattfuss.

Season.	Milk. lb.	Test.	Butter-fat. lb.
1925–26	10,209	3·42	349·20
1926–27	14,906	3·65	544·00

the cereal hays. It gives much better results than wheaten. I would never advise one to grow wheaten hay for cow feed where it is possible to grow oaten hay, nor would I recommend a mixture of wheat and oats. Algerian oats, the type chiefly used, also makes a fine green stuff of high feeding value, which may be fed off for some time.

There is an unfortunate feature about cereal hay, and it is that a large percentage of the grain escapes mastication, and remains undigested, and thus a valuable portion of the food is lost. As the grain forms, its requirements are drawn from the stem and leaf, and consequently their food value is gradually reduced.

In feeding cows, the loss in grain is considerable, but it should not be beyond the ingenuity of our implement makers to perfect a chaff-cutter capable of gristing or breaking the grain when cutting the hay into chaff. Some farmers cut their hay before the grain has formed,

and in such cases the stem and leaf are of greater feeding value. Some steam or moisten chaff for a time before feeding to soften the grain, but even then there is a fair percentage of loss, and the farmer will not get the full value from his cereal chaff until we have the combined chaff-cutter and grister.

ANALYSES OF HAYS.

Oaten—4.5 per cent. protein, 43.7 per cent. carbo-hydrates, 1.5 fat; nutritive ratio 1 to 10.5.

Wheat—3.6 per cent. protein, 46.1 per cent. carbo-hydrates, 1.1 per cent. fat; nutritive ratio, 1 to 13.5.

Lucerne hay—12.3 per cent. protein, 37.1 per cent. carbo-hydrates, 1.6 per cent. fat; nutritive ratio, 1 to 3.3.

Meadow hay (red clover)—6.8 per cent. protein, 35.8 per cent. carbo-hydrates, 1.7 per cent. fat; nutritive ratio, 1 to 5.8.

Meadow hay (clover and rye grass)—6.2 per cent. protein, 35.2 per cent. carbo-hydrates, 1.2 per cent. fat; nutritive ratio, 1 to 6.

The analyses show the higher feeding value of these hays over the cereal hays. It is pleasing to note that more grass or meadow hay is being saved each year. This reserve fodder, which is not affected by mice, is very easy to build in stacks that will turn the rain.

In the growing of cereal crops the ground is idle for the greater part of the year, but with meadow hay the paddock need be closed to stock for only three or four months.

Clovers, trefoil, lucernes, peas, and beans are termed leguminous; they are all rich in nitrogen, have a fairly high mineral content, and are of great value to the dairy farmer for his milking cows and growing stock.

Straw is sometimes used during winter months as roughage. Wheat and rye straws are the poorest; oats and barley straws are more valuable as feed. Pea straw is a valuable roughage. Maize straw, generally termed stover, has a certain value as a supplier of carbo-hydrates.

Good Pastures should be the Objective.

In feeding cows the objective is profit. Pasture is the first necessary consideration, for it costs much less to produce milk from pasture than from bought feeds.

The subdividing of paddocks will enable more stock to be carried, and better returns to be obtained. Cows appreciate changes, and eat more greedily. Subdivision also enables some of the paddocks to be saved for hay in the springtime, when there is abundance of grass. After mowing, the first rain will bring up a fresh growth of young grass. Top-dressing has in some cases doubled, and in others even trebled the carrying capacity of grass lands. Grass in its young stage has almost double the value of mature grass, for then the leaves are richest in protein and mineral matter. The cow eats the young grass with a relish, ingestion is rapid, very little energy being required to digest it. As grass matures, the fibrous matter increases, and it loses a certain amount of its palatability, its feeding value is lower, and more energy is required to digest it. Again, feeding off grass in its immature stage not only means higher feeding value, it also means more feed.

In feeding concentrates, allowance must be made for the pasture. For instance, a cow grazing on first class pasture would not require feeding at the rate of 1 lb. to 3 lb. of milk. Suppose the cow is giving 50 lb. of milk, 6 to 7 lb. of concentrates should be sufficient, and on medium pasture, 9 lb. would be a reasonable allowance.

To feed economically, we must make good pasture the main objective, and supplement it according to requirements. To feed correctly, the milk must be weighed daily; increased feeding should show results on the third or fourth day. In the spring and autumn, if there is an abundance of green grass, the ration should be broader than when the grass commences to dry off. The protein allowance should then be increased, and a narrower ration fed. A broad ration is one in which the carbo-hydrate content is greater than that required for a balanced ration; for instance, 1 to 12 would be termed a broad ration, 1 to 3 a narrow ration.

The constituents required for each gallon of milk testing, say 5 per cent., are:—Protein, 5.4; carbo-hydrates, 2.7; fat, .19.

For maintenance purposes, protein .07, carbo-hydrates .7, fat .01 for every 100 lb. live weight.

TABLE SHOWING LIME AND PHOSPHORIC ACID PER CENT. IN SOME OF THE COMMON FOODS IN GENERAL USE.

Foods.	Lime.	Phosphoric Acid.
	Per cent.	Per cent.
Bran	0·16	2·63
Oats	0·12	0·78
Maize meal	0·01	0 63
Barley	0·05	0·77
Linseed meal cake	0·52	1·79
Dec cotton cake	0·34	2·78
Lucerne hay	2·52	0·65
Meadow hay	1·00	0·40
Mangels	0·04	0·09
Potatoes	0·03	0·14
Oat and vetch silage	0·26	0·14

ANALYSES SHOWING THE ACTUAL VALUE OF YOUNG SUCCULENT GRASS IN DIFFERENT DISTRICTS.

District.	Moisture.	Protein.	Carbo-hydrates.	Fat.	Ash.	Nutritive Ratio.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	
Berwick	77·78	3·07	5·86	0·48	3·17	1 to 2·30
Boisdale	71·66	4·56	7·85	0·80	4·07	1 to 2·16
Dalyston	81·12	2·32	5·66	0·65	1·99	1 to 3·14
Euroa	73·64	3·05	7·30	0·56	4·73	1 to 2·76
Heidelberg	76·41	3·00	6·71	0·54	3·01	1 to 2·68
Ondit	68·00	4·61	8·86	0·68	5·06	1 to 2·29
Tongala (irrigated)	82·15	2·35	5·12	0·61	3·23	1 to 2·8

The following is an example of finding the nutritive ratio of a ration made of 30 lb. of maize silage and 10 lb. lucerne hay chaff:—

Maize silage contains protein, 1.8 per cent.; carbo-hydrates, 13.5 per cent.; fat, 0.6 per cent.

Lucerne hay chaff contains protein 12.3 per cent.; carbo-hydrates, 37.1 per cent.; fat, 1.6 per cent.

The method is to multiply the percentage by the number of pounds of food and divide by 100. Thus in the case of protein in maize— $1.8 \times 30 \div 100 = .540$.

The method is to multiply the percentage by the number of pounds of food and divide by 100.

Maize protein,	$1.8 \times 30 \div 100 =$	.540
Lucerne protein	$12.3 \times 10 \div 100 =$	1.23
Total protein in ration	..	1.770
Maize carbo-hydrates	$13.5 \times 30 \div 100 =$	4.05
Lucerne carbo-hydrates,	$37.1 \times 10 \div 100 =$	3.71
Total carbo-hydrates in ration	..	7.76
Maize fat,	$0.6 \times 30 \div 100 =$	.18
Lucerne fat,	$1.6 \times 10 \div 100 =$	.16
Total fat	..	.34

Carbo-hydrates $7.76 +$ fat $.340 \times 2\frac{1}{2} = 8.610$

If total percentage of carbo-hydrates 8.610 be divided by the total percentage of protein 1.77, the result is 4.8; therefore, the nutritive ratio is 1 to 4.8.

Hereunder are the nutritive ratios of several rations—

20 lb. green oats, 5 lb. bran .. .. } 1 to 6·2

Add 1½ lb. linseed and the nutritive ratio is 1 to 5·1.

5 lb. oats .. .., 5 lb. bran .. .., 2 lb. pea meal .. } 1 to 4·7

10 lb. oaten chaff .., 5 lb. bran .. .., 2 lb. linseed meal .. } 1 to 6

40 lb. potatoes .., 5 lb. bran .. .., 5 lb. oats .. .. } 1 to 8·6

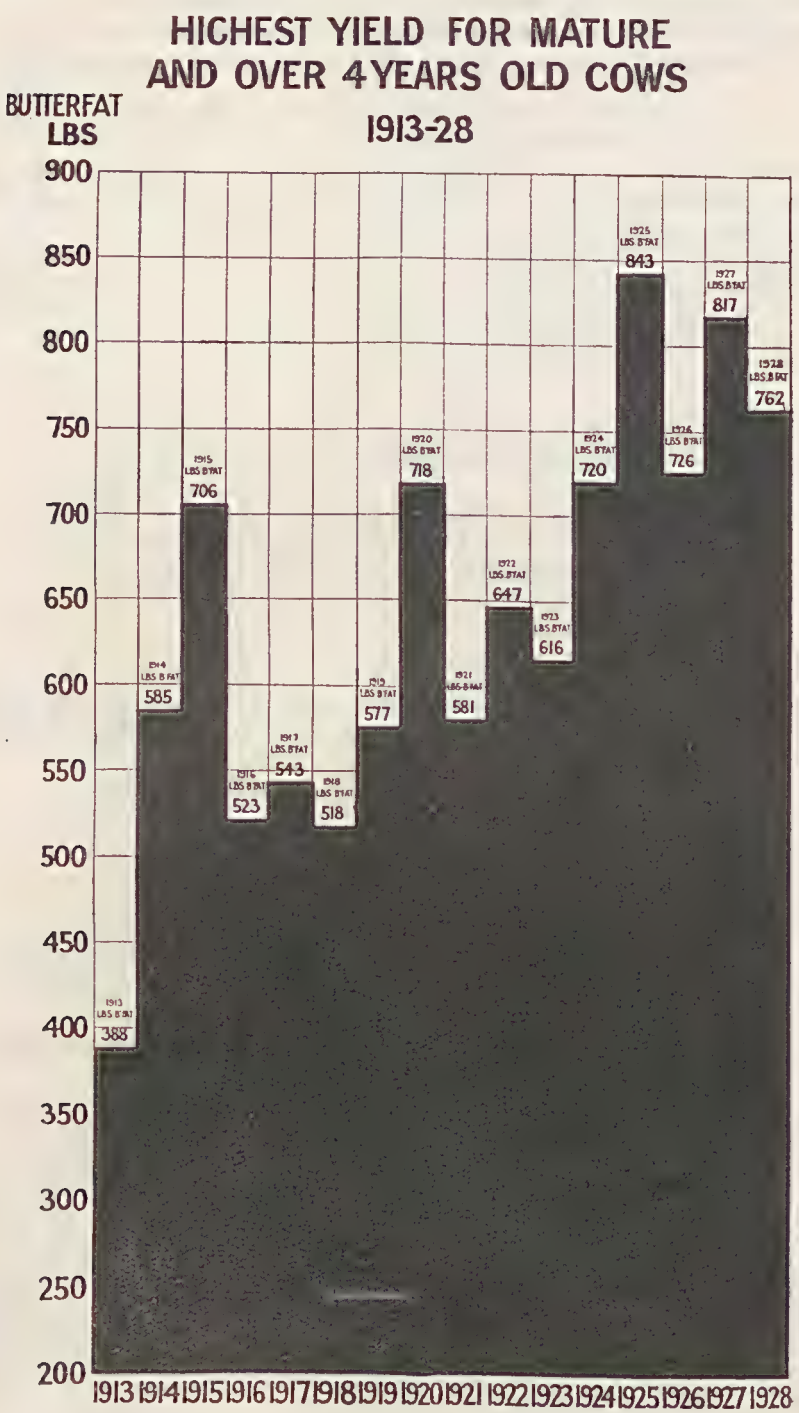
When there is a good supply of young grass present this ration would be suitable.

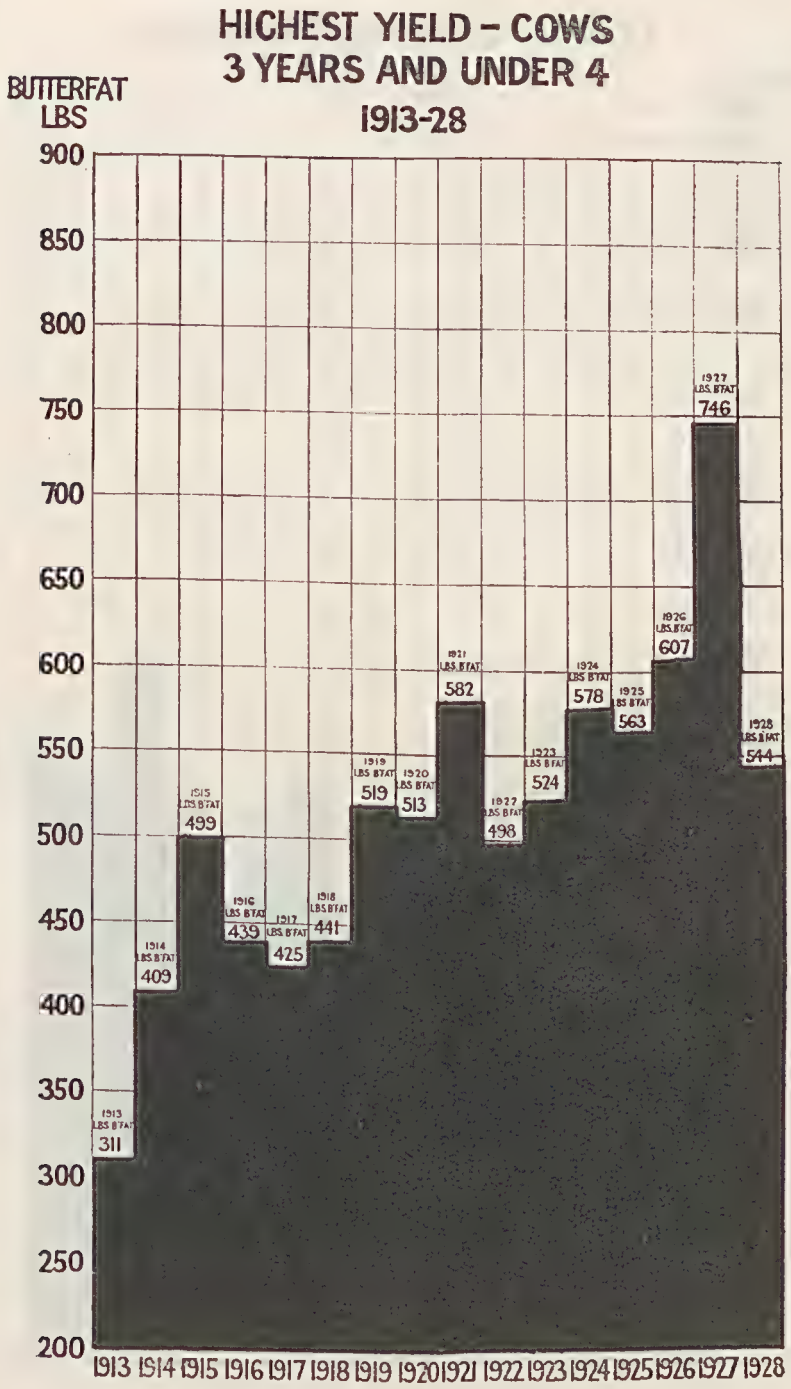
40 lb. potatoes .., 5 lb. bran .. .., 5 lb. lucerne chaff .., 2 lb. linseed meal } 1 to 5·9

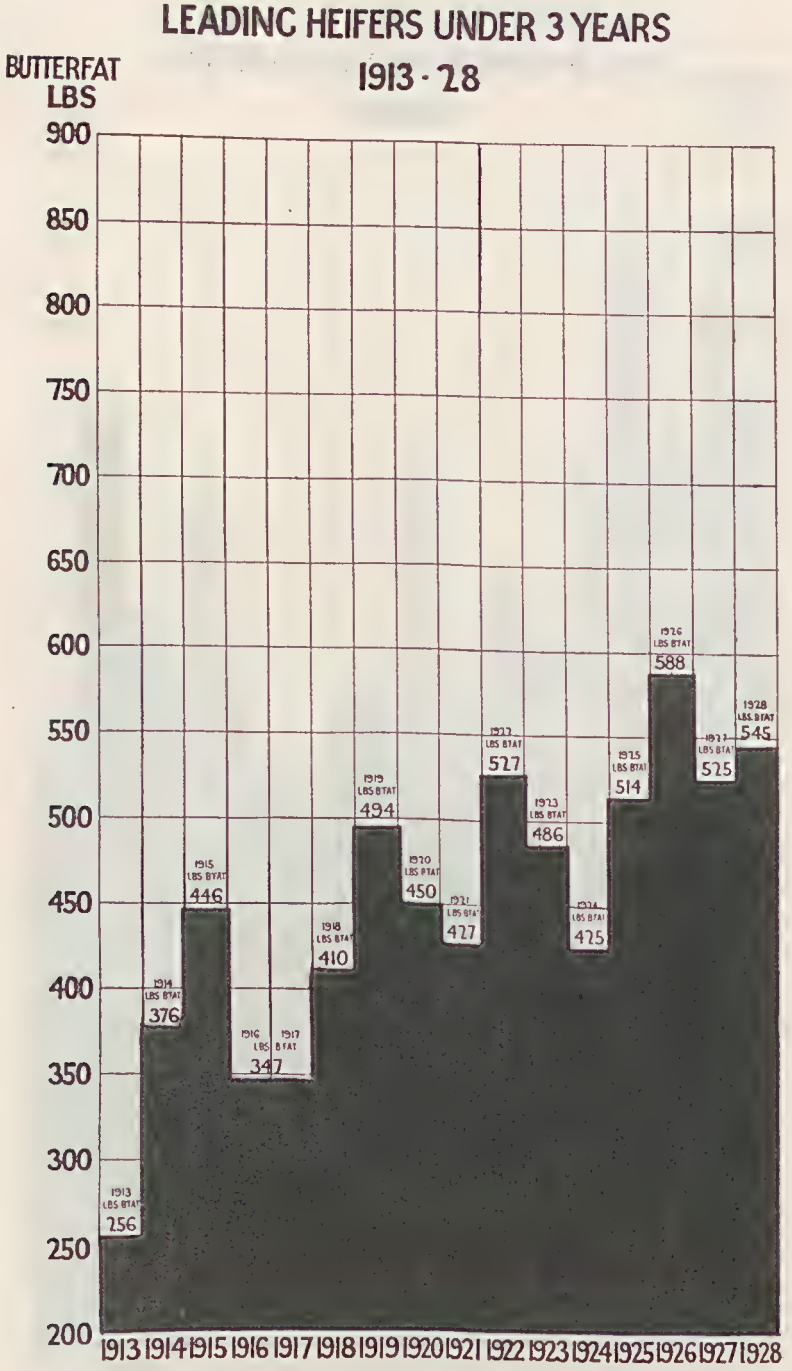
A ration showing increase of protein as the grass matures.

If cotton-seed meal were added instead of linseed meal the effect would be a narrower ration, the protein content being increased.

The farmer frequently asks, What amount he can afford to pay for concentrates. This, of course, will vary according to the price of butter-fat, and also according to the individuality of each cow; but, taking an average, I would say try to balance your concentrates at about 1d. per lb. if possible. If one grows his own grains he may supply them cheaper. Usually, however, by watching the market one variety of grain can be secured at reasonable price; the same may be said of other forms of concentrates. The scales if watched will show the profit or loss.


HIGHEST YIELD FOR MATURE
AND OVER 4 YEARS OLD COWS
1913-28
BUTTERFAT
LBS
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
1913 LBS B'FAT 388
1914 LBS B'FAT 585
1915 LBS B'FAT 706
1916 LBS B'FAT 523
1917 LBS B'FAT 543
1918 LBS B'FAT 518
1919 LBS B'FAT 577
1920 LBS B'FAT 718
1921 LBS B'FAT 581
1922 LBS B'FAT 647
1923 LBS B'FAT 616
1924 LBS B'FAT 720
1925 LBS B'FAT 843
1926 LBS B'FAT 726
1927 LBS B'FAT 817
1928 LBS B'FAT 762
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928


HICHEST YIELD – COWS
3 YEARS AND UNDER 4
1913-28
BUTTERFAT
LBS
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
1913 LBS B'FAT 311
1914 LBS B'FAT 409
1915 LBS B'FAT 499
1916 LBS B'FAT 439
1917 LBS B'FAT 425
1918 LBS B'FAT 441
1919 LBS B'FAT 519
1920 LBS B'FAT 513
1921 LBS B'FAT 582
1922 LBS B'FAT 498
1923 LBS B'FAT 524
1924 LBS B'FAT 578
1925 LBS B'FAT 563
1926 LBS B'FAT 607
1927 LBS B'FAT 746
1928 LBS B'FAT 544
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928


LEADING HEIFERS UNDER 3 YEARS
1913 - 28
BUTTERFAT LBS
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
1913 LBS BTAT 256
1914 LBS BTAT 376
1915 LBS BTAT 446
1916 LBS 347
1917 BFAT
1918 LBS BTAT 410
1919 LBS BTAT 494
1920 LBS BTAT 450
1921 LBS BTAT 427
1922 LBS BTAT 527
1923 LBS BTAT 486
1924 LBS BTAT 425
1925 LBS BTAT 514
1926 LBS BTAT 588
1927 LBS BTAT 525
1928 LBS BTAT 545
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928

Factors for Success in Dairying.

The main factors for success in dairying are—

1. *The Right Class of Cow.*—Feeding cannot take the place of breeding, neither can breeding take the place of feeding.

2. *Good Pasture.*—This means a good growth of young leafy grass and clovers, and, where possible, lucerne. Pastures should be supplemented with green stuff—oats or barley for late autumn and winter; maize and Japanese millet; Sudan grass for summer and early autumn.

3. *Good Clean, Unlimited Water Supply.*—Nothing will cut down a milk supply quicker than a shortage of water.

4. A good supply of mineral matter is essential—100 gallons of milk contains 7½ lb. of solid mineral matter.

Storage of Feed.

Storage of food is an essential factor. Some of our breeders on irrigated areas stack a ton of hay per cow for winter feeding. On the dry areas an effort should be made to store 2 tons of hay per head for a cow for one year as insurance against drought. Two tons of hay will provide 12¼ lb. daily for a cow for one year, and will provide her with 20 lb. for 32 weeks.

The silo is termed by some writers the farmers' bank. It stores food in a succulent form, which is so valuable. Maize gives the greatest weight per acre. Five tons of silage will provide a cow with 30 lb. daily for a year; 4 tons will provide 30 lb. daily for 298 days; 5 tons would give a cow 40 lb. for 280 days, and 4 tons for 224 days. The amount of silage a cow can consume to best advantage is reckoned at 3 lb. to every 100 lb. live weight.

The Past Season.

This past season was, from the grazier's point of view, very unsatisfactory. The year 1927 looked as though a severe drought was developing. The remarkable summer rains, commencing early in 1928, however, completely changed the aspect, and while the first six months of the period covered by this report were most unfavorable, the latter months have been just the opposite. Taking the severe drought conditions prevailing during 1927 into consideration, the results recorded are satisfactory.

Breeders of pure-bred stock are displaying a keener interest in the Government Standard Herd Test, and we hope some day that our objective will be realized, and that all pure-bred dairy stock will be under test. The production of our herds depends on the standard of the pure-bred stock. The introduction of the pure-bred bull scheme has made it possible for the struggling settler to obtain a good pure-bred sire from tested stock, and this will do much to raise the production throughout the State. It is certainly the most important move since the Standard Test was introduced.

The following new entries were accepted during the year, and, unfortunately, many had to be refused owing to the shortage of the staff:—

J. S. Black, Ayrshire, Noorat. Mrs. K. Burnett, Ayrshire, Trafalgar. T. A. P. Coombes, Jersey, Tongala. R. Clymo, Ayrshire, Bamawm. J. Dee, Jersey, Clyde. P. J. Ducat, Jersey, Ardmona. Foster Brothers, Jersey, Boisdale. Fairchild and Clutterbuck, Jersey, Tinamba. W. Fink, Ayrshire, Yalloch. J. E. Gunningham, Jersey, Tahara Bridge, via Coleraine. H. R. Heard, Ayrshire, Derinallum. A. J. Hitchens, Jersey, Werribee. C. W. Harris, Jersey, Merino. G. E. Harker, Ayrshire, Yannathan. W. T. Harker, Ayrshire, Caldermeade. A. Hubbard, Ayrshire, Yarra Glen. S. C. Handley, Ayrshire, Dandenong. T. Knowles, Ayrshire, Dandenong. R. B. Kelly, Jersey, Tatura. McNabb and Son, Jersey, Irrewillipe. E. Nicholls, Jersey, Springhurst. B. R. O'Meara, Ayrshire, Caldermeade. R. Poyner, Jersey, Lilydale. R. Sadler, Ayrshire, Noorat. G. W. Smith, Jersey, Fish Creek. C. H. Sell, Jersey, Irrewillipe East. J. Thompson, Jersey, Mooroopna. E. J. Vagg, Jersey, Leongatha. Walsh Brothers, Red Poll, Heidelberg. R. Wilson, Jersey, Derinallum.

Special Herd Testing Prizes.

CHAMPION HERD, PRIZE £20.

RESERVE CHAMPION HERD, PRIZE £10.

To be awarded to the herds giving the greatest and second greatest average under the Herd Testing regulations. Minimum number of cows competing in the test during the year, ten.

Such herd to average 300 lb. of butter-fat.

Handicaps to be allowed on the following scales. In a herd of more than ten, each cow shall receive an allowance equivalent to ½ lb. of butter-fat for each cow in the herd. Allowances according to class:—

Junior two-year-old, 150 lb.; senior two-year-old, 125 lb.

Junior three-year-old, 100 lb.; senior three-year-old, 75 lb.

Junior four-year-old, 50 lb.; senior four-year-old, 25 lb.

Three best cows in herd to be exhibited at Royal Agricultural Show of that year.

The Champion Herd prize has been won by P. J. Maloney's Jersey herd, Tongala. Average yield per cow, 555.55 lb. of butter-fat. The prize for Reserve Champion Herd goes to Mr. O. Syme's Friesian herd, Macedon. Average yield per cow being 506.42 lb. butter-fat.

Grand Champion prize of £100 to be awarded to the cow securing the position of Annual Champion for three years, not necessarily in succession. Not yet won.

Annual Champion Cow under Herd Test regulations, prize of £10. To be awarded to the cow yielding the greatest amount of butter-fat during a lactation period terminating within the year ending on the 30th of June, under the Department of Agriculture's standard. Herd Test regulations and calving again within fifteen months from

previous calving date. If two lactations are completed within the year the last will be considered.

Cow to be exhibited at the Royal Agricultural Show of that year. Won by Messrs. Smith and Sons' Friesian cow, Halecote Opera Girl, 761.64 lb. butter-fat.

Annual Reserve Champion Cow, under Government Standard Herd Test regulations. For cow attaining second place, and calving again in fifteen months from previous calving date. Cow to be exhibited at Royal Agricultural Show of that year. Won by Mr. O. Syme's Friesian cow, Eco Sylv Belle, 636.36 lb. of butter-fat.

The leading cows in the various sections are—

Mature class, Fairy of Willow Park, Milking Shorthorn, 645.81 lb. butter-fat.

Senior four-year-old, Halecote Opera Girl, Friesian, 761.64 lb. butter-fat.

Junior four-year-old, Yorkshire Rosevale Ideal, Friesian, 631.54 lb. butter-fat.

Senior three-year-old, Greenvale June Rose 2nd, Friesian, 544.00 lb. butter-fat.

Junior three-year-old, Carrie 3rd of Queen's Vale, Jersey, 542.78 lb. butter-fat.

Senior two-year-old, Daffodil of Grangelea, Jersey, 499.79 lb. butter-fat.

Junior two-year-old, Bolobek Trixie, Friesian, 545.45 lb. butter-fat.

A Full List of Competitors.

A list setting out in order of merit the names of all the cows competing in the 1927-28 test is being issued as a supplement to this issue.

This supplement, together with the usual list of competing herds, grouped alphabetically according to owner's name, will be reprinted in pamphlet form, and, as in past years, free copies will be available for those applying for them.

MANURE TRIALS WITH POTATOES, 1927-28.

(Continued from page 487.)

TRENTHAM AND MILLBROOK.

By J. T. Ramsay, Potato Expert.

Trentham.

During the seasons 1923-24 to 1926-27, the manurial variations tested on the potato crop at Trentham were the same as used at all other centres. While these gave very informative results, they suggested that the rates of application of phosphoric acid, in the case of the heavier dressings and in the combined and complete manure plots, were in excess, and could be reduced with advantage both as regards the weight of crop produced and of economy. Last season, therefore, a reduction was made in the rates of superphosphate applied in the case of the field tests at both Trentham and Millbrook. The soil at these two places is very similar, being a red volcanic loam, and the average climatic conditions during the period of maturation of the crop are also much the same at both centres.

Results obtained during the years 1924-27 inclusive indicated that a superphosphate application of somewhere about 3 cwt. per acre was probably enough to give the maximum return. It was, therefore, decided to limit this manure to 2 cwt., 3 cwt., and 4 cwt. dressings, and to take 3 cwt. per acre of super. in conjunction with 1 cwt. ammonium sulphate and 1 cwt. sulphate of potash respectively, and in conjunction, in order to try out the effect of ammonium and potassium salts. The results obtained in the season 1927-28 are therefore more interesting on account of this innovation, and because they seem in the first year of trial to justify the departure from the orthodox variations applied during the last five years.

From Table XVIII. given below the results obtained can be seen.

TABLE XVIII.—RESULTS OF MANURE TRIALS AT TRENTHAM EAST, 1927-28.

Conducted on the farm of Mr. E. Brodie (red volcanic soil).

Plot.	Manures per Acre.	Market Size Tubers.	Increase due to Manure.	Manure Cost per Acre.	Cost per Ton Increase.	Per cent. Increase.
		T. c. q.	T. c. q.	£ s. d.	£ s. d.	%
1	2 cwt. super.	5 0 0	3 10 0	0 13 0	0 3 8	233
2	3 cwt. super.	6 12 2	5 2 2	0 19 6	0 3 9	340
3	4 cwt. super.	5 17 2	4 7 2	1 6 0	0 6 0	250
4	3 cwt. super., 1 cwt. pot. sulph.	5 15 0	4 5 0	1 14 6	0 8 1	280
5	No manure	1 10 0	..	..	..	..
6	3 cwt. super., 1 cwt. ammon. sulph.	7 5 0	5 15 0	1 16 3	0 6 3	380
7	3 cwt. super., 1 cwt. ammon. sulph., 1 cwt. pot. sulph. ..	6 17 2	5 7 2	2 11 3	0 10 0	350
8	3 cwt. market garden ..	4 0 0	2 10 0	1 8 6	0 10 3	160
9	3 cwt. basic phosphate ..	4 12 2	3 2 2	0 19 6	0 6 2	206
10	1 cwt. di-ammonium phos. ..	5 5 0	3 15 0	1 18 6	0 10 3	250
11	2 cwt. di-ammonium phos. ..	7 15 0	6 5 0	3 17 0	0 12 4	410

In calculating the cost per ton of manure, £1 per ton has been added to Melbourne prices to cover cost of transport.

In the dressings containing phosphoric acid alone No. 2 application (3 cwt. superphosphate per acre) gave an appreciably heavier increase than either the 2 cwt. or 4 cwt. In the case of the compound manure No. 6 dressing containing 3 cwt. superphosphate and 1 cwt. ammonium sulphate per acre showed the best results considering the cost of manures. (Table XVIII.).

As at Childers, Catani, and Warragul, the new di-ammonium phosphate manure was tried, and with very beneficial results. Where 1 cwt. of this artificial fertilizer was given—equalling approximately $2\frac{1}{2}$ per cent. super. and 1 cwt. ammonium sulphate per acre—the increase in crop weight approached that obtained from the No. 6 (3 and 1) dressing at practically the same cost per ton increase.

A dressing of 2 cwt. di-ammonium phosphate produced a return greater than the No. 6 application, but in this case the cost per ton increase was almost twice that of the 3 cwt. super. and the 1 cwt. ammonium sulphate. This, in a year of moderate to low prices would not justify the increase in expenditure on manure.

Further tests on this class of soil with this altered rating of manurial dressings are being looked forward to with interest.

Varietal Test.

Much has been heard of during the past season or two with regard to the low prolificacy of the late Carman variety of potato which holds pride of place in Victoria as regards the acreage grown. It is contended in some quarters that this variety should be discarded and replaced by a heavier-yielding sort. Such advocates take no cognizance of the fact that any lessening in productiveness of this variety, noticeable in some cases, is due to lack of care in the selection of seed and not to any inevitable senility.

A test was carried out at Trentham during the past season between Carman III. and Snowflakes—the latter being admittedly one of the heaviest croppers grown in this State, and from the results shown in Table XIX. it will be seen that the late Carman variety more than held its own.

Table XIX.—Comparative Yields of Snowflake and Carman Varieties at Trentham East, 1927-28.

	Manure per Acre.	Yield.
		T. c. q.
Snowflakes	3 cwt. market garden manure ..	5 0 0
Carmans	3 cwt. market garden manure ..	7 0 0

Increase in favour of Carman variety, 2 tons per acre.

Growers need not have any fear of any variety diminishing in prolificacy, provided reasonable care is exercised in the selection of suitable seed, i.e., seed saved from the most productive plants of the variety grown.

Millbrook.

At Millbrook, owing to a greater area being utilized for experimental and demonstrational work a greater variety of tests is possible than at other centres. As mentioned before, the results of the previous four years at Millbrook from the phosphoric acid applications showed that 6 and 9 cwt. respectively were evidently in excess of what was required. That being so, dressings of superphosphate at the rate of 2, 3, and 4 cwt. per acre were tested. The results are shown in Table XX. hereunder.

Table XX.—Results of Manure Trials at Millbrook, 1927-28.

Conducted on the farm of Mr. P. J. Ryan (red volcanic soil).

Plot.	Manures per Acre.	Market Size Tubers.	Increase due to Manure.	Manure Cost per Acre.	Cost per Ton Increase.	Per cent. Increase.
		T. c. q.	T. c. q.	£ s. d.	£ s. d.	
1	2 cwt. super.	4 13 3	0 18 3	0 13 0	0 13 9	25
2	3 cwt. super.	5 12 2	1 17 2	0 19 6	0 10 7	50
3	4 cwt. super.	5 10 0	1 15 0	1 6 0	0 15 0	46
4	3 cwt. super., 1 cwt. pot. sulph.	6 14 0	2 19 0	1 14 6	0 11 8	78
5	No manure	3 15 0	..	..	..	..
6	3 cwt. super., 1 cwt. ammon. sulph.	7 2 0	3 7 0	1 16 3	0 11 0	89
7	3 cwt. super., 1 cwt. ammon. sulph., 1 cwt. pot. sulph. ..	6 0 2	2 5 2	2 11 3	1 2 8	60
8	3 cwt. market garden manure	4 5 3	0 10 3	0 19 6	1 18 0	14
9	3 cwt. basic phosphate ..	4 0 1	0 5 1	1 18 6	7 12 0	7

In calculating cost of manures, £1 per ton has been added to Melbourne price to cover cost of transport.

From the following analysis of the Millbrook soil, it will be seen that it is apparently amply supplied with all the necessary food elements required by plants.

Analysis of Millbrook Soils.

	Parts per 100,000.
Nitrogen	143
Phosphoric acid	180
Potash	249
Lime	176

Notwithstanding this excellent standard of plant food content, the red volcanic loam at Millbrook responds very appreciably to judicious manuring as can be seen by Table XX.

The rainfall of any season (particularly during the effective period) has, of course, a very great influence on crop production.

From the rainfall records at Millbrook from November, 1927, to May, 1928, it will be seen that no less than 2,142 points fell. This was, of course, both abnormal and excessive.

RAINFALL AT MILLBROOK, 27TH OCTOBER TO 28TH MAY, INCLUSIVE.

	Points.
27th October	248
27th November	85
27th December	209
28th January	387
28th February	502
28th March	373
28th April	137
28th May	201
Total ..	2,142

The effect of this abnormal rainfall was expressed by considerable development of leaf or early blight (*Alternaria solani*) which greatly decreased the yield owing to the affected leaves being unable to function normally in elaborating sap. Fortunately, this disease does not affect the tubers; consequently a clean sample was harvested in spite of a mild outbreak of Irish or late blight (*Phythophthora infestans*).

The increases in yield due to the effect of the various manures were appreciable in nearly every case. In the case of the phosphoric acid dressings it is remarkable how consistently the application of superphosphate at the rate of 3 cwt. per acre has performed on this class of soil. This would appear to be the optimum rate for superphosphate in the district. More noticeable still, however, is the consistently greater increase obtained where 1 cwt. per acre of ammonium sulphate is applied with the super.

The average of the previous four years showed that 6 cwt. super, and 1 cwt. ammonium sulphate gave the best return, and now after determining that 6 cwt. super. was in excess on this country, the combination of 3 and 1 of super. and ammonium sulphate shows well ahead of any other application, giving in the season 1927-28 an increase of 89 per cent. of weight per acre of market size tubers. (See Table XX.)

TWO TESTS—(1) ON BARE FALLOW, (2) FOLLOWING A PEA CROP.

A test was made at Millbrook last season to determine the relative advantages of bare fallow preceding the potato crop and potatoes following a pea crop—the pea crop being harvested. In spite of the fact that the peas were harvested a distinct gain was evidenced in favour of this practice as compared with bare fallowing, as will be seen from the following table:—

TABLE XXI.—RESULTS OBTAINED AT MILLBROOK, 1928-28, ON LAND WHICH HAD PEAS HARVESTED AS AGAINST LAND BARE FALLOWED.

Average in each case of nine lots given.

From Land on which Peas had been Grown and Harvested.	Bare Fallow.	Increase in favour of Land on which Crop of Peas has been Grown.
T. c. q.	T. c. q.	T. c. q.
5 6 0	3 5 2	2 0 2

To my mind, bare fallowing in country with a good rainfall which potato-growing districts enjoy normally is a mistake. Advantage should be taken to keep the ground occupied with some crop as much as possible. If insufficient time for the ripening and harvesting is available between the taking off of the crop preceding the potato crop, and the planting of the potatoes, then recourse can be made to sowing a quick-growing catch crop such as mustard or rape, both of which cost little to sow and which can always be fed off or ploughed under with advantage. Considerable benefit will accrue from such practice both in fertility and physical condition of the soil.

Selected *v.* Unselected Seed Test.

Further tests were made with selected as against unselected seed. Two seasons ago a selection of seed was made from plants producing seven market-size tubers and over that number. After that no further selection was made. It was from resultant crops of this selection that seed for this test was chosen. The unselected seed came, of course, from the run of the crop. The variety was Late Carman, which is synonymous with Carman III., or Cook's Favourite. In spite of the fact that no selective treatment had been given for two seasons, the constitution and reproductive power of this parcel of seed showed to considerable advantage over the parcel to which no selection had been given.

Table XXII.—Result of Selected and Unselected Seed at Millbrook, 1927-28.

Selected Seed.	Unselected Seed.	Increase due to Selection.
T. c. q. 10 0 3	T. c. q. 7 10 0	T. c. q. 2 10 3=33%

The above figures substantiate previous findings favouring to a very material degree the practice of continually giving care to securing tubers for seed which are the produce of plants of high productive power. Until the attention which it warrants is given to proper seed selection the oft-repeated complaint of degeneration of varieties will be heard. The remedy is in the hands of growers.

Immature *v.* Ripe Seed Test.

Further figures showing the superiority of seed secured in an immature condition were obtained last year, the results of which are given in the next table:—

Table XXIII.—Results of Immature *v.* Ripe Seed at Millbrook, 1927-28.

Immature.	Ripe.	Increase due to Immature Seed.
T. c. q. 7 15 0	T. c. q. 6 14 0	T. c. q. 1 1 0

So much has already been written on this subject, and the results of so many trials given showing the benefit to be derived from the use of immature seed as compared with ripe seed, that the above results obtained during the season 1927-28 are presented without further comment.

Varietal Test.

Table XXIV. shows the results of the varietal tests for the season.

Table XXIV.—Results of Varietal Tests on Potatoes at Millbrook, 1927-28.

Uniform manure applied, 3 cwt. super. per acre.
Weight of market-sized tubers only given.

Variety.	Yield per Acre.		
	T.	c.	q.
Carman 1	3	1	2
Beauty of Hebron (early)	2	8	0
Red Ohio	4	0	1
Earliest of All	6	0	2
Duchess	4	16	1
Kerr's Pink	5	7	0
Great Scott	7	10	0
Brownell's Beauty	8	0	2
Excelsior	6	14	0
Sussex	7	7	0
Manhattan	10	3	2
Wellington	8	0	2
Brown's River	9	15	2
Beauty of Hebron (late)	8	16	3
Minato	9	7	0
Late Carman	10	0	3

The early varieties suffered severely by comparison with the late varieties on account of their being too far advanced when the mid-January rains came to receive full benefit from same.

Of late there has been considerable question amongst Victorian growers as to whether a coloured skinned variety suited to the Sydney market taste could not be grown in this State with advantage. In view of this fact these varietal trials are all the more interesting. First, they show that the belittled Late Carman variety with decent treatment is quite capable of holding its own, as it produced the second highest weight per acre; and, secondly, that with properly-selected seed there is no reason why old varieties should not be rejuvenated to high productiveness. This point is made clear by the performance of the famous Brown's River variety, which at one time represented probably 90 per cent. of this State's planting of potatoes, and which last season gave the third highest yield out of sixteen varieties tested, and was only 8 cwt. per acre lower in yield than the heaviest cropper.

The third feature of note on this list is the remarkable fact that of the seven highest yielding varieties, all of which gave 8 tons or over per acre of market-sized tubers, no less than six are coloured sorts. These are Brownell's Beauty, Manhattan, Wellington, Brown's

River, Beauty of Hebron, and Minato. This surely is a complete answer to critics, who suggest that nothing is being done to help the growers to find varieties which will supply the needs of interstate markets.

The Value of Cultivation.

The cultivation test again shows the great advantage to be gained by giving sufficient intercultivation to the crop during the growing period, and further supports the results of the past two years. As will be seen from Table XXVI., substantial increases resulted from each cultivation given. Three cultivations gave practically a 50 per cent. increase over the crop resulting from one cultivation. In each case the soil manuring and the class of seed used in the test were the same, the only variation being the number of cultivations given.

Table XXV.—Results of Cultivation Tests at Millbrook, 1927-28.

	Yield per Acre.		
	Market.	Small.	Total.
	T. c. q.	T. c. q.	T. c. q.
One cultivation	7 10 0	1 0 0	8 10 0
Two cultivations	9 5 0	0 15 0	10 0 0
Three cultivations	10 14 1	0 15 0	11 9 1

Is Change of Seed Necessary?

There is still extant amongst many growers the preference for changing seed every year or two, and procuring at considerable added cost seed potatoes from other districts to displace their own stocks. It is believed that by doing so better crops will result than if they continue to use seed of their own growing year after year.

The article in Bulletin No. 39 on change of seed deals fairly extensively with this subject, but it is worth mentioning here that in many cases where change of seed is made insufficient care is exercised to make sure that better constitutioned seed than that which is being displaced is obtained.

Various tests have already been carried out to determine the value of change of seed, and another was made last season, the result of which is given in Table XXVI.

Table XXVI.—Imported *v.* Home-grown Seed, Millbrook, 1927-28.

	Yield.
	T. c. q.
Home-grown seed	7 10 0
Imported seed	6 2 0
Increase in favour of home-grown seed ..	1 8 0

These results tend to prove that where reasonable care and selection of seed are given change of seed is neither necessary nor always beneficial. The mere change of soil environment of seed makes no difference to the prolificacy of that seed; it is the previous care expended on it which is the influencing factor.

Boxed *v.* Bagged Seed.

The final return to be presented this season is that of a further test between seed stored in boxes and seed stored in bags between the time of harvesting and planting. Seed from these two classes of storage were given the same soil, cultural and manurial treatments. The following are the results:—

Table XXVII.—Boxed Seed *v.* Bagged Seed, Millbrook, 1927-28.

	Yield.
	T. c. q.
Boxed seed	7 10 0
Bagged seed	5 7 0
Increase in favour of boxing	2 3 0

In view of the consistency of the heavier production from boxed seed further comment is unnecessary.

CORRECTION.

POTATO TRIALS AT KORUMBURRA.

In Table III.—Results of Trials at Korumburra, printed in this *Journal* for August, page 477, a couple of errors occurred. The two last records in the Table should have read as follows:—

Plot.	Manure per acre.	Market size Tubers.	Increase due to Manure.	Manure Cost per Acre.	Cost per ton Increase.	Percentage Increase.
		T. c. q.	T. c. q.	£ s. d.	£ s. d.	%
8	3 cwt. market garden ..	8 17 0	2 8 2	1 8 6	0 11 8	37
9	3 cwt. basic phosphate ..	8 14 0	2 5 2	0 19 6	0 8 5	35

THE ROOT BORER.

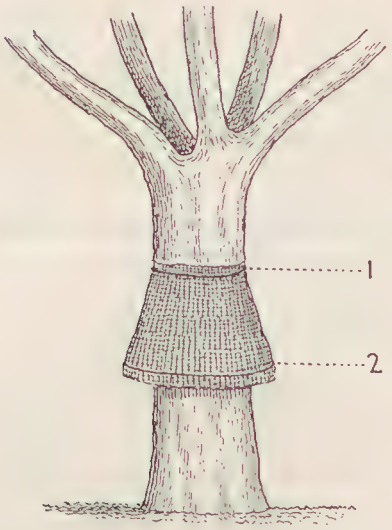
By A. A. Hammond, Senior Orchard Supervisor.

The root borer is the most destructive of our indigenous orchard pests.

The perfect insect, after emerging from the soil (usually in early summer) ascends the tree on the roots of which the larvae feed.

To prevent the female ascending the tree for the purpose of depositing her eggs on the leaves, many devices have been tried.

Black-leaded plain zinc bands—inverted funnel-shaped zinc contrivances with pepper box traps, and bands made of adhesive materials —have all been used with more or less success. The device shown in the illustration below is both effective and cheap. Though it is not



actually a trap it serves the same purpose, for the beetles will remain under the shelter of the crinoline-like hessian band for weeks. The materials required to make this device are simply coarse loosely woven hessian and some fine galvanized wire, which is woven through the hessian to keep the contrivance in shape. It is unnecessary to explain how the traps are constructed and placed on the stem of the tree. This information can be best obtained by a glance at the illustration.

As many of the beetles may probably be parasitized, it is inadvisable to destroy them when captured. It is recommended that they be placed in a secure box with a fly-proof netting cover, and fed with a few apple or pear leaves, so that they may be kept alive until the

parasitic larvae contained in their bodies reach maturity. Should the beetles be destroyed or allowed to die the parasites would, of course, die with them.

These bands when placed on apple or pear trees may also serve as a trap for codling caterpillars.

Care should be taken to examine the bands—especially where they are tied at the top—at intervals of about ten days, so that all pupating codling larvae may be destroyed.

It is of very great importance that no vegetation should be permitted to grow under orchard trees, for such covering provides the female with an excellent place in which to deposit her eggs.

RIND MARKING OF CITRUS FRUITS.

FINDING THE CAUSE.

By S. A. Cock, Citriculturist.

Experiments in the Year 1925-26.

Apart from markings caused by fungus diseases, which are a very negligible quantity in normal seasons, a great deal of disfigurement of the rind of oranges and other varieties of citrus fruits is every season observable in groves in all portions of the State. Rind blemishes lower the quality standard, and, consequently, are a very important factor in commercial marketing. During the 1924-25 season exception was taken by the Victorian Department of Agriculture to the export of rind-blemished fruit, and in the 1925-26 season experiments with various insecticides and fungicides were conducted at Shepparton for the purpose of evolving a means of control.

Up to the time of these experiments, and even later, growers were of the opinion that insects such as thrips were, in the main, responsible. This opinion was based on the spray programme of control of insects and fungus diseases in other countries; also on the fact that in California, U.S.A., thrips are stated to cause markings on the rind of citrus fruits similar to those observed here. Biological investigation in Victoria, however, has failed to prove that insects or fungi are responsible for the markings. The experiments at Shepparton were carried out at the groves of Messrs. R. Marshall and R. Denholm, and at this late stage it is desired to thank them for the great assistance they gave. The work was supervised by

1. "Silver Rust."

2. "Scurf" Mark and "Silver Rust".

Mr. W. A. Rolfe, citrus supervisor for the district. The following tables show the different insecticides and fungicides that were tried:—

Taple I.—Spraying and Dusting Experiments Conducted at the Grove of Mr. R. Marshall, Shepparton, Season 1925-26.

Row.	No. of Trees.	Control Used and When Applied.
1	13	Lime sulphur—1 in 40—when petals were falling
2	13	Lime sulphur—1 in 40—when petals were falling, and 1 in 50 when fruit had set
3	13	Check row
4	13	Lime sulphur—1 in 40—with ½ pint of nicotine sulphate and 6 oz. casein when petals were falling
5	13	Same as No. 4; using lime sulphur—1 in 50—when fruit had set
6	13	Check row
7	13	3 lb. atomized sulphur to 50 gallons when petals falling
8	13	3 lb. atomized sulphur to 50 gallons when petals falling and 2 lb. to 50 gallons when fruit had set
9	13	Check row
10	13	3 lb. atomized sulphur to 50 gallons with ½ pint of nicotine sulphate and 6 oz. casein when petals falling
11	13	Same as No. 10 when petals falling, and 2 lb. atomized sulphur with nicotine and casein when fruit had set.
12	13	Check row
13	13	Bordeaux mixture—6 : 4 : 60—when petals falling
14	13	Same as No. 13 when petals falling, and 6 : 4 : 100 when fruit set
15	13	Check row
16	13	Burgundy mixture—6 : 10 : 60—when petals falling
17	13	Same as No. 16 when petals falling, and 6 : 10 : 100 when fruit had set
18	13	Check row
19	13	Sulphur ½ lb. mixed with ½ lb. of powdered lime (air slaked and sieved) to each tree, when petals falling
20	13	Same as No. 19 when petals falling, and again when fruit set
21	13	Check row
22	13	Powdered pyrethrum 4 oz. to each tree, mixed with 12 oz. of powdered kaolin, when petals falling
23	13	Same as No. 22 when petals falling, and again when fruit had set
24	13	Check row
25	13	2 oz. calcium cyanide to each tree, mixed with 8 oz. of powdered kaolin, when petals falling
26	13	Same as No. 25 when petals falling, and again when fruit had set

Table II.—Spraying and Dusting Experiment Conducted at the Grove of Mr. R. Denholm, Shepparton, 1925-26 Season.

Row.	No. of Trees.	Control Used and When Applied.
27	..	Same as No. 1 row in No. 1 Experimental Plot.
28	..	Same as No. 2.
29	..	Check.
30	..	Same as No. 4.
31	..	Same as No. 5.
32	..	Check.
33	..	Same as No. 7.
34	..	Same as No. 8.
35	..	Check.
36	..	Same as No. 10.
37	..	Same as No. 11.
38	..	Check.
39	..	Same as No. 13.
40	..	Same as No. 14.
41	..	Check.
42	..	Same as No. 16.
43	..	Same as No. 17.
44	..	Check.
45	..	Same as No. 19.
46	..	Same as No. 20.
47	..	Check.
48	..	Same as No. 22.
49	..	Same as No. 23.
50	..	Check.
51	..	Same as No. 25.
52	..	Same as No. 26.

The total number of trees either sprayed or dusted in the two experiments was 468, while 208 were held as checks. The whole of the fruit picked from the 676 trees was graded into "special," "standard," and "plain" grades, according to the regulating standard, and necessarily this took some time.

As far as preventing the blemishes on the rind was concerned, the experiments achieved nothing, as the fruit from the sprayed and dusted trees showed about the same percentage of markings as were observable on the fruit from check trees.

The 1927–28 Experiment.

Recognizing from these experiments that wind and rain storms were probably the cause of the markings, the experiments for 1927-28 were planned to shelter the trees by means of enclosing them on four sides to the height of the trees with hessian screens. The grove selected was typical of the groves exposed to the southerly and westerly winds, that is, one without a windbreak surrounding it. The position of the trees protected, the check trees, and those sprayed is shown in the plan on page 552.

This experiment was carried out at the grove of Messrs. A. J. Wood and Sons, at Tongala, by Mr. V. L. Lawrey, Citrus Supervisor

for the Doncaster and Rochester district, and his report is as follows:—

Six average trees were selected to be sheltered from the winds, two in the south-west corner, two in the north-east corner, and two in the centre of the grove. They were surrounded on all sides to a height of nine feet by a timber framework covered with hessian, the top only

PLAN OF CITRUS GROVE OF MESSRS. A. J. WOOD AND SONS, TONGALA, SHOWING POSITION OF TREES USED FOR THE EXPERIMENT.

1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3	1	2	3	4	5	6 C	7 C	8	9	10 A	11	12	13	14	15	16	17	18	19	20
4	1	2	3	4 D	5 D	6	7	8	9	10 B	11 B	12 A	13	14	15	16	17	18	19	20
5	1	2 E	3 E	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
7	1	2	3	4	5	6	7 A	8 B	9	10	11	12	13	14	15	16	17	18	19	20
8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
9	1	2	3	4	5 B	6 A	7	8	9	10	11	12	13	14	15	16	17	18	19	20
10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
13	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
14	1	2	3	4 F	5 F	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
15	1 A	2 B	3 A	4 B	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
18	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

A. Protected Trees; B. Check Trees; C. Trees sprayed with Clensel, 3 per cent.; D. Trees sprayed with Volck, 1 per cent. plus Nicotine Sulphate $\frac{1}{8}$ per cent.; E. Trees sprayed with Volck, $1\frac{1}{2}$ per cent.; F. Trees sprayed with Pyrethrum Soap, 9 per cent.

being left open. The shelters were completed by the 13th October, 1927, when the trees were coming into bloom, and were left until 9th August, 1928, when they were removed and the fruit harvested and graded. A tree in the immediate vicinity of every protected one was used as a check, and the fruit from each of these was picked and graded on the same day.

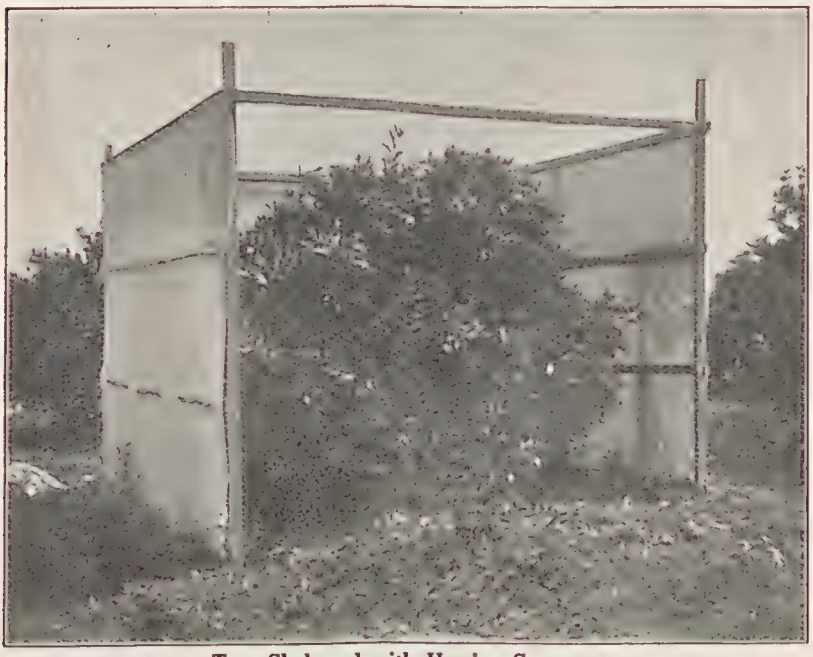
Further, eight trees were sprayed on 28th October, 1927, when they were in full bloom. Two were sprayed with volck $1\frac{1}{2}$ per cent., two with volck 1 per cent. plus nicotine sulphate $\frac{1}{8}$ per cent., two with

clensel 3 per cent., and two with pyrethrum soap at a strength of 9 per cent.

The fruit from each experimental tree was divided into three quality grades, but the classification was made solely having regard to the freedom of the rind from blemishes, size being disregarded. The classification adopted for the grade standards was most rigid in that any fruit showing the slightest trace of any mark on the rind was placed in the "standard" grade.

The Grade Standards for citrus fruits are as follow:—

(*a*) Oranges, lemons, mandarins and grape fruit described as "special" shall consist of sound, clean, well-formed, unblemished, fully matured and wholly coloured fruit, free from disease, of one size and one variety, and packed as prescribed.



Tree Sheltered with Hessian Screen.

(*b*) Oranges, lemons, mandarins and grape fruit described as "standard" shall consist of sound, clean, well-formed, fully matured and wholly coloured fruit, free from disease, of one size and one variety, of good weight for the variety, and packed as prescribed.

(*c*) Oranges and mandarins described as "plain" shall consist of sound, clean, fully matured, and wholly coloured fruit, free from disease, of one size and one variety, of good weight for the variety, and packed as prescribed.

(*d*) Fruit showing superficial blemishes caused by limb-rubs, sprays, thrips, and oil markings arising from exudation of the natural oil of the rind shall be allowed, provided that the total area covered by such blemishes of any one fruit does not exceed the area contained in a circle having a diameter of one half of an inch. (This does not apply to Special Grade quality, where no blemish is allowed).

TABLE III.—SHOWING YIELD OF FRUIT OBTAINED FROM TREES USED IN 1927-28 EXPERIMENTS.

Row.	Tree.	Trees Sprayed, 28.10.27. Material Used.	Fruit from Sprayed Trees Picked and Graded, 9.8.28. Special.	Standard.	Plain.	Total Fruits.	Row.	Tree.	Trees covered with Hessian, 13.10.27. Hessian removed and Fruit Picked and Graded, 9.8.28. Special.	Standard.	Plain.	Total. Fruits.	Row.	Tree.	Fruit from Check Trees Picked and Graded, 9.8.28. Special.	Standard.	Plain.	Total Fruits.
3	7	Clensel, 3%	31 13·8%	168 75%	25 11·2%	224	4	12	346 79·5%	80 18·4%	9 2·1%	435	4	11	45 7·8%	411 71%	123 21·2%	579
3	6	Clensel, 3%	46 7·6%	424 70·6%	130 21·6%	600	3	10	72 57·1%	51 40·5%	3 2·4%	126	4	10	94 25·8%	246 67·6%	24 6·6%	364
4	5	Volck, 1% + Nic. Sulphate, ⅛%	51 15·8%	234 72·4%	38 11·8%	323	7	7	170 58%	121 41·3%	2 0·7%	293	7	8	53 11·4%	394 84·7%	18 3·9%	465
4	4	Volck, 1% + Nic. Sulphate, ⅛%	18 13·7%	102 77·9%	11 8·4%	131	9	6	114 56·4%	88 43·6%	..	202	9	5	27 10·2%	228 86·4%	9 3·4%	264
5	3	Volck, 1½%	12 12·2%	77 78·6%	9 9·2%	98	15	1	144 84·2%	27 15·8%	..	171	15	2	58 28·1%	126 61·2%	22 10·7%	206
5	2	Volck, 1½%	8 6·2%	113 88·3%	7 5·5%	128	15	3	100 60·6%	60 36·4%	5 3%	165	15	4	83 27·9%	206 69·4%	8 2·6%	297
14	4	Pyrethrum Soap, 9% ..	31 8·1%	291 76·2%	60 15·7%	382												
14	5	Pyrethrum Soap, 9% ..	46 29·3%	94 59·9%	17 10·8%	157	Totals		946 67·9%	427 30·7%	19 1·4%	1,392	Totals		360 16·5%	1,611 74·1%	204 9·4%	2,175

There was no noticeable difference between the appearance of the fruit from any of the sprayed trees and that of the check trees, but the protected trees gave outstanding results, as shown in the table on page 554.

The fruit from the protected trees was not quite so mature in the pulp as that from the check and sprayed trees, but the rind of the fruit on the covered trees had a very bright colour. When the hessian coverings were removed the sheltered trees were of a very different appearance from that of the surrounding trees; their foliage was of a deep glossy green colour, and the leaves of perfectly natural shape. The covered trees generally presented a perfect condition of health. This was in great contrast to the unsheltered trees, whose foliage was distorted and of a light-green colour, and the trees generally showed the effect of wind and the cold conditions of the winter.

Remarks on the Experiments.

It is not of course suggested that because the experiments conducted this season have been successful in producing a large percentage of unblemished fruit that the building of hessian shelters around each tree, or a number of trees in a grove, is a commercial proposition. It is manifest, however, that shelter belts are an essential factor in establishing a citrus grove, no matter where it is planted or how big or small the grove. The vigour, colour, and the general healthy appearance of the foliage of the protected trees were in most marked contrast to the rest of the trees in the grove. This aspect of the experiment will be closely watched during the coming season, as it is expected that the protected trees will, from their unusually healthy appearance, produce an abundant crop. The yield from the grove this season is about the average of former years. The trees are sixteen years old, and the average light cropping is due probably to the want of shelter.

Conclusion.

Having established the fact that wind and rain storms cause markings on the rind, next season's experiments will be planned to find out, if possible, at what period the markings occur, also what effect pruning methods will have on the prevention of rind markings. In order to decide the period at which blemishes are most likely to occur screens will be placed around eighteen trees, and two of these screens will be removed each week. The pruned trees will not be protected, but the pruning suggested as part of the experiment will entail the removal only of any dead wood, also the removal of any branch where a crowding of the foliage is observed. When the trees are wet by rain or dew, the rind of the fruit is soft, and any rubbing at that period is more liable to cause the blemishes known as "Silver Rust" and "Scurf" than at such times when the foliage and fruit is dry.

It is to be sincerely hoped that the results of the experiments already conducted as well as future experiments will be of benefit to the citrus growers of the State. A word of thanks is due to Mr. A. J. Wood, first of all, for placing at the disposal of the Department trees on which to make investigations, and secondly, for assistance in carrying out the tests.

ASPARAGUS.

E. E. Pescott, F.L.S., Pomologist.

The edible stems of the asparagus plant form one of the most acceptable, delicious, and healthful of vegetables. *Asparagus officinalis,* as it is botanically known, is a native of temperate Europe and Asia. The old name "Sparagrass" or "Sparrowgrass" is a corruption of the technical name; and the foliage stems of the plant, with their handsome scarlet berries, were commonly known by this name.

All species of asparagus are perennial, with more or less fleshy, tuberous roots. The plant belongs to the Lily family, of which there are ornamental as well as culinary species. In its native habitat, the asparagus plant grows in the sands of the sea-shores; and, while in that location it does not produce large stems, yet it is thoroughly strong and hardy. Asparagus is easy to grow; and, once the bed is established, it perhaps gives less trouble, and requires less attention than many other vegetables more commonly grown.

Probably the main reason why asparagus is not more generally grown, other than its supposed difficult cultivation, is that, being a perennial plant, and producing results only for about three months of each year, it occupies far more space than can usually be spared in an ordinary vegetable garden. Whilst at least two, and often three or four, ordinary vegetable crops may be grown each year, asparagus occupies the land for the whole year, and is therefore bound to remain a more costly vegetable than most kinds. On the other hand, once the asparagus bed is thoroughly established, the work each year is comparatively light, and asparagus can be produced with far more ease than many other vegetables.

Asparagus requires a deep rich loamy soil, heavily stored with strong organic manures, well trenched and drained, and thoroughly cultivated in autumn and spring. These essentials, combined with a special care in preparing the asparagus bed, are all that will be necessary to ensure the establishment of a plot, which will produce good crops for many years.

Preparation of Soil.

The choice of a soil for asparagus culture cannot be given too much attention. It is advisable to have the soil as rich as possible; it can hardly be too rich, especially in organic humic material. If a rich, deep soil can be utilized, the operations are greatly reduced. Heavy clay soils should be avoided. It may happen, of course, that the scope of the intending grower is limited, and that he already has his land, which he must employ to the best of his ability. If the soil be at all heavy, and particularly of a clayey nature, the clay should be removed, and the heavy soil should be made very much lighter in texture by the addition of humic material.

An old method of preparing an asparagus garden is to dig a pit at least 3 feet deep the full size of the intended bed. All clay, heavy soil, stones, and solid matter are then removed, and the bed filled with rich friable and drainable plant food. The bottom of the pit is covered with a layer of 6 or 8 inches of well-rotted manure and leaf-mould;

above that is placed a layer of rich soil or turf, then a layer of manure, and so on, until the pit is filled. The area is then divided into small plots. Such a bed would produce good crops for years; and no asparagus bed should be laid down without proceeding on the main lines indicated. It is not wise, however, to make up the bed by placing the soil and manures in alternate layers; the rich soil and manure should be well mixed together, so as to form an even mass of rich plant food.

The bed depth of 3 feet is not always necessary. The soil may be worked out to a depth of a little over 2 feet; and then at planting time a good covering of rich soil might be placed to a depth of from 9 to 12 inches, thus providing a raised bed, which would also be easily drained.

The bottom of the bed should be well dug up or trenched, and in order to prevent a lodgment for water, the bed should have drainage

A Three-Year-Old Asparagus Crown Ready for Planting.

exits, particularly where the subsoil is heavy or clayey. In preparing large areas, it would be impossible to follow the system. The soil should be ploughed deeply, without bringing the subsoil to the surface, and it should also be subsoiled, particularly if the latter be not at all porous. A good covering of stable manure should be then given to the field; and the grower will have to rely upon subsequent top dressings with artificial fertilizers to provide nutriment for the plants.

It is beyond doubt that asparagus will thrive better in a friable than in a heavy soil; as, being a native of the sea sands, it requires a loose, free-root area. In preparing the beds, anything that will form a plant food or that will tend to open the soil, may be utilized, such as sand, turf, wood ashes, soot, crushed bones, leaves, grass cuttings from lawns, straw, seaweed, in addition to the ordinary fowl, cow, pig, and horse manures. Whatever food ingredients are added to the bed should be well blended together; large heaps of any one substance should be avoided in the beds. It is a decided advantage to have the

bed prepared in the autumn, so that the various ingredients may be sweetened and mellowed before the planting season.

In large areas, the depth of the bed can readily be provided for by ploughing out between the beds, throwing the soil well up on the bed; thus providing the raised bed system for the crop.

PLANTING.

The plants may be set in the rows from June to August. The beds should be arranged so as to take every advantage of the sun—a warm aspect is needed to induce quick growth in the springtime.

One-year or two-year-old plants may be used. If the yearling plants are strong, with well developed crowns, and three or four buds, they may be planted; they will give as good results as two-year-olds. Seedling crowns are to be preferred to divisions of the older crowns, as the young plants have greater vigour and vitality. The plants should be planted in rows about 18 inches apart in the home garden, with the same distance between each plant. In large areas, the plan of planting in double rows is often adopted, the rows being alternately 2 feet and 3 feet apart. This allows for a furrow or a trench to be run between each double row in the winter, to provide for good surface drainage. The trench is dug deeply, and at a lower level than the crowns, so that there shall be no possibility of surface water settling about the roots in the cold weather. The plants should be placed at least 6 inches below the surface. For planting, a furrow or trench may be run along the length of the bed, and the crowns placed in this. The roots should be directed downwards, so that it will be well to have a slight crown in the centre of the furrow; they may then be covered with soil, and well trodden, care being taken to tread at the sides, and not on the crowns. A top dressing of manure will complete the work of planting. Sometimes, where the soil is not particularly rich, it will be advisable to give a light sprinkling of bonedust or sulphate of potash in the trenches before planting.

If it be desired to grow seedlings, the seed should be planted in a well-drained bed of rich soil, in rows about 2 feet apart. The seed should be sown very sparsely. The young plants should be thinned out to 8 or 9 inches apart. Thorough cultivation should be observed throughout the year; no weeds should be allowed in the seed bed. Frequent waterings with liquid manure, especially in dry weather, will make the results successful.

VARIETIES.

"Conover's Colossal" is the commercial asparagus more commonly grown; while "Palmetto" is also a good variety, rather earlier than the former; "Argenteuil Purple" is another good variety, and very tender. This last-mentioned variety is often grown in localities where asparagus rust is prevalent. "Deering's Mammoth" is a locally raised variety, which under good culture, produces very large thick stems of first class quality and flavour.

CULTIVATION AND MANAGEMENT.

From springtime to autumn, the beds will require to be continually hoed and cultivated. No weeds should be allowed in the beds; and if these are frequently hoed, no trouble will be experienced from foreign

growths. Soil crusts and sodden surfaces must be avoided; and in autumn, and again in spring, the beds may be forked or dug over. If trenches are cut between the rows, the soil may be thrown up on top of the crowns.

In the home garden, it is a good plan to rake or fork away the first few inches of top soil each year, not later than August. This should be immediately replaced with rich strong manure or manure and soil mixed. If animal manure be not available, then a supply of chemical fertilizer should be mixed with the soil.

During the first year, the plants should be allowed to grow without any cuttings being made. If good sturdy growth has been made, the beds may be sparingly cut over during the second year, and then only for four or five weeks. Cutting causes weakness of growth; and, until the plants are sturdily established, they should not be weakened by

Asparagus Stems Ready for Cutting.

forcing them to make unnatural growths. Subsequently, the beds may be regularly cut over, terminating the third year's cutting time with the end of November, and all subsequent cuttings early in December; with later varieties and in cooler districts the season will be extended. In matured beds, the cuttings should always be "clean." That is, every growth, whether sturdy enough for culinary purposes or not, should be cut out. The stalks that are too small or poor for eating may be thrown away. From December, all growths should be allowed to continue until autumn, when the beds may be cleaned out; all the old growths should be cut down level with the ground, and the beds given a top dressing with stable manure. The tops are cut as soon as the seeds are ripened. These then appear of a bright scarlet colour. The seeds must not drop to the ground, as they will germinate and grow, and the seedlings will become some of the worst weeds in the beds.

Asparagus beds frequently make several growths during the esason, or they may, under very favorable conditions, be making continual development of shoots right through the growing period.

Generally there is the spring growth which is always cut out for culinary purposes. Then there is the continued growth which comes after cutting ceases. Later on, early in February, especially if there be summer rains, a very strong re-growth appears.

Manuring.

Even though the plantation had been well manured before planting was carried out, the plants require constant manuring, as asparagus is an exceptionally gross feeder. Dressings of stable manure may be given after cleaning out the beds, and after the beds have been "cut out" and are allowed to grow in December. Seaweed is a valuable

Seedling Asparagus Growing on Top of Crown.

mulch for asparagus; and, if available, should be applied in abundance. In addition to these, occasional sprinklings of chemical fertilizers may be given in spring and summer. As frequent cuttings for some time, of every growth produced by the plant, is a heavy tax on its vigour and abilities, it should be well nourished with readily available food, so that it may continue to produce good growths; thus, frequent feedings during the growth period will always be helpful. The plants cannot continue to bear good payable crops, and at the same time be compelled to continue in growth and existence without special help and assistance.

The most perfect chemical fertilizer for asparagus is a mixture of 2½ cwt. of sulphate of ammonia, 2 cwt. sulphate of potash, and from 4 to 5 cwt. of bonedust per acre. Blood manure, nitrate of soda, kainit, and muriate of potash are all useful for top dressing. Owing

to asparagus growing on the seashore in its native habitat, it was supposed that the plants required frequent dressings of salt to enable it to grow successfully. It has been found, however, that such is not the case. Further, on analysis, it has been shown that of all ingredients in the composition of this plant, salt is in the lowest percentage. Salt will kill the weeds without injuring the asparagus; and has an indirect effect in reducing, to an available condition, certain plant foods that already exist in the soil. If the grower wishes at any time to use salt on his beds, it will be better to apply kainit, which contains salt in combination with potash.

Cutting.

With the advent of the warm spring weather, the asparagus stems begin to come through the surface, and they are ready for cutting. They

Asparagus Plant showing Continual Development of New Shoots.

should be cut before the scales on the heads have opened out, the knife being inserted into the ground, cutting the stems below the surface, and carefully avoiding any other stems that are growing out from the same crown.

There are various asparagus knives in use, but all are made on a similar principle, having the cutting edge at the end, instead of at the side, the end being either at right angles to the side, angular, or curved. A recently invented asparagus knife has its cutting end shaped like a V, both inside edges being sharpened.

Pests and Diseases.

In this State, the asparagus plant is singularly free from these troubles. In America, considerable injury is done by the Asparagus Beetle, which is a pretty beetle with red, lemon, and dark-blue colouring. The beetle causes damage by the larvae burrowing into and eating the young asparagus stems.

Asparagus rust frequently causes considerable damage by attacking the growing stems, and thus weakening the whole plant and interfering with its growth. It is always a safe plan to burn the tops of the plants when they are cut down in autumn; this will destroy effectually both fungus spores and insects that may be lurking therein. In California, great havoc and considerable loss resulted from continued attacks of the asparagus rust. There, both sulphur and Bordeaux mixture have been used with good effects. It has been also found that some varieties are more resistant to rust than others. The "Palmetto" variety stands out prominently as being an excellent rust resistant; while the French variety "Argenteuil" is considered equally rust proof.

Conclusion.

If the field or beds have been well established and well cared for, there is every reason to expect that they shall be productive for many years. A field planted in 1852 is still in existence in California.

Asparagus canning is a very important industry in America; and it is now established on a sound commercial basis. "Conover's Colossal" is practically the only variety grown there for that purpose.

LOSS BY INSECTS IN THE UNITED STATES OF AMERICA.

Losses exceeding $2,000,000,000 annually result from insect damage in the United States of America, nullifying the labour of 1,000,000 men by destroying from one-tenth to one-fifth of all crops, according to a statement by Dr. C. C. McDonnell, who is in charge of insecticide, fungicide, and caustic poison control in the Food, Drug, and Insecticide Administration of the Department of Agriculture, United States of America.

Plant diseases are responsible for losses at least comparable to those attributed to insects, says Dr. McDonnell. Smuts alone cost 100,000,000 bushels of grain annually, while the destruction due to rusts is even greater. The statement follows in full text.

The fight against insects and fungi grows more and more important as the population increases and better sanitation and a larger food supply become necessary. As a general rule, the more closely grouped are the hosts of a parasite, whether they be people in cities, fruit trees in the fruit-growing areas, cotton in the south, or corn in the corn belt, the more vulnerable they are to attack. Also improved transportation facilities tend to spread plants infested with insects or diseases from one region to another, giving a parasite of one plant a chance to become a parasite on another, where it may cause more damage than on the original host.

Thus, the potato beetle, originally restricted to the Rocky Mountain region and feeding on weeds, attacked potatoes when they were

introduced into the west, and since then it has spread to all parts of the United States of America, causing millions of dollars' losses to potato-growers. The Japanese beetle is said to be innocuous in its native land, but it is a major pest in this country. Black rot and mildew, originally mildly attacking wild grapes in this country, are now so severe a pest that the growing of European grapes in the eastern part of the United States of America is impossible. In California, where this grape is extensively grown, these diseases are not an important factor.

Insects attack fruits, vegetables, cereals, cotton, stored products, animals, clothing, and upholstery; in fact, practically everything of organic and some matter not of organic origin. Several years ago the Department of Agriculture reported great losses in certain parts of the country from the "lead cable borer," which bored holes through lead pipe and the lead covering on telephone and telegraph cables. The damage by a single insect may cause a short circuit, putting from 500 to 600 telephones out of commission.

The loss to the cattle industry due to the cattle grub is put at $100,000,000 annually. Cattle raising was made entirely unprofitable in certain parts of the south by Texas fever, which was transmitted by the cattle tick. It is only in recent years, since ticks have been eradicated by dipping the animals in a solution of arsenic, that this industry has again become profitable.

It has been estimated that the money loss from the work of insects in the United States of America exceeds $2,000,000,000 yearly. To put it in other words, insects in this country nullify the expended labour of 1,000,000 men. They destroy in their feeding from one-tenth to one-fifth of all the crops planted.

Such losses may be greatly reduced by the use of insecticides.

It has been stated that the losses due to plant diseases are at least comparable with those due to insects. The annual loss due to smuts preventable by fungicides has been estimated by the Department of Agriculture at more than 100,000,000 bushels of grain. The losses due to rusts are even greater. The reduction in yield due to diseases of sweet potatoes was 200,000 acres of sweet potatoes.

In addition, about 11,000,000 bushels of sweet potatoes in storage rotted as the result of attacks of fungus diseases. Apple crab scab caused a reduction in the 1925 apple yield of 22,000,000 bushels. Even such minor preventable diseases as anthracnose and stem-end rot of watermelon caused a loss of $1,250,000 in four States in 1918. The value of the annual commercial fruit production of the United States of America is about $700,000,000. Practically all of this must be protected by fungicides.

Fungi Attacks Timber.—Another very serious loss due to fungi is that caused by decay of timber. According to the Department of Agriculture *Year-Book* for 1920, if all the wood used under conditions leading to decay were treated with a preservative, such as creosote oil, zinc chloride, or sodium fluoride, there would be a saving of 6,000,000,000 board feet annually, or one-fifth of the total lumber cut.

There is an enormoust loss due to insects and bacteria which cannot be calculated in terms of dollars. It is that caused by disease

in man. Certain diseases are transmitted exclusively by insects. Mosquitoes transmit malaria, which renders many regions of great fertility almost uninhabitable. Mosquitoes also disseminate yellow fever, which in the past has occurred in great epidemics in the south, but now, owing to control measures, is practically unheard of in the United States of America. Other diseases carried entirely by insects are relapsing fever, typhus fever, and Rocky Mountain fever, besides diseases like sleeping sickness, which seldom occur in that country, but are of extreme importance elsewhere. Bubonic plague, tuberculosis, and leprosy are also commonly disseminated by insects.

Control Measures.—The diseases spread by insects can be controlled, or chance of their spread lessened, by control of the insects. This is why ships are fumigated to prevent entry of plague, why oil and paris green are used against mosquitoes, and why numerous and varied insecticides are used against flies and other household insects.

A very large proportion of the diseases of man, such as typhoid fever, tuberculosis, diphtheria, lockjaw, blood poisoning, and pus-forming infections are caused by bacteria. To prevent these diseases it is necessary to control the bacteria. This in many cases is accomplished through the use of disinfectants.

While statistics of the entire insecticide and fungicide industry are not available, we have fairly definite data on some products. The annual consumption of paris green, which is the oldest arsenical insecticide of importance, has averaged during the past ten years about 5,000,000 pounds and that of lead arsenate 20,000,000 to 27,000,000 pounds. Since its introduction nine or ten years ago, the use of carcium arsenate has grown to about 30,000,000 pounds annually. The imports of pyrethrum flowers in 1927 were 10,500,000 pounds, which was 10 per cent. of the total importation of crude drugs into the United States of America.

Consumption of Chemicals.—The consumption of paradichlorobenzene (used for the peach borer and certain household insects) is certainly in excess of 1,000,000 pounds annually. The yearly consumption of copper carbonate, used for seed treatment, especially wheat bunt, is about 500,000 pounds. Sulphur, lime sulphur solution, Bordeaux mixture, and oils are used in quantities aggregating many thousands of tons each. The production and importation of creosote and other tar oils in 1926 totalled 163,014,084 gallons, valued at over $21,500,000.

The growth in the household insecticide business during the past three years is reported to be greater than that in any other new product in the drug or grocery trade. The sale of such products last year was reported as $65,000,000, in comparison with $8,000,000 five years ago. The value of disinfectants, germicides, and antiseptics produced in 1925 was reported by the Department of Commerce as about $21,000,000.

Thus the value of manufactured products subject to control under the Insecticide Act is probably close to $150,000,000. No satisfactory control methods have yet been discovered for some of our most destructive insect pests or for some fungus diseases. As further study develops control methods the trade will expand greatly.

WINTER EGG-LAYING TEST.

(From 1st April to 31st July, 1928.)

By W. C. Rugg, Chief Poultry Expert.

The eighteenth Egg-Laying Competition conducted by the Department of Agriculture at Burnley commenced on 1st April, 1928, and will be concluded on 2nd March, 1929.

For the first time in many years the number of entries received was in excess of the number of pens available, and a ballot had to be held. Yet in size and quality the competitors of this year are superior to those of last year.

What is known as the Winter Test concluded on 31st July, 1928; the period thus covers 122 days. During this time of the year prices for new-laid eggs are at their highest, and consequently it is of great importance to breeders that birds should lay well then. Further, if birds can be bred that will lay large numbers of eggs during the winter they can usually be depended upon to lay well throughout the year, and, as a rule, their progeny, too, will be consistent layers.

Splendid Records by Ducks.

On this occasion, the first since the beginning of the Burnley Egg-Laying Competitions, provision was made for the inclusion of ducks in the competitions, and the outstanding feature of the Winter Test was the remarkable performance of the Khaki Campbell ducks owned by Mr. M. G. Leech, of Campbellfield. In Section A6 his team of six laid 663 eggs—an average of 110½ eggs per duck. One duck in the group not only laid an egg every day of the four months—on one day she laid two. The value of the eggs laid by this team was £5 18s. 11d., which was £1 13s. more than was received for the eggs laid by the leading pen of pullets. Mr. W. L. Newton's team of Fawn and White Indian Runners also laid well; the value of the 549 eggs laid by them during the four months of the Winter Test was £4/18/7.

Mr. Leech's team of three ducks in Section B put up even a better performance than the team of six in Section A. These three ducks laid 339 eggs, or an average of 113 eggs per duck for the 122 days.

The Utility Rouen Ducks owned by Mr. M. Burn, of Spring Vale, also laid well, three of them laying a total of 309. The leading duck produced 18; thus there were only four days on which she did not lay.

Comments on the Hen Sections.

In Section A—Light Breeds—the leading team was owned by Mr. W. H. Bamford, of South Australia. It is a very even team, and looks as if it will win the competition, as out of 478 eggs laid to the end of July only 16 were second grade. The next team was bred by the veteran breeder, Mr. G. Pocknall, of Thornbury; they laid 453 eggs.

I very much regret an unfortunate accident which happened to the team of Mr. F. R. de Garis, of Sandringham. This team was in a leading position when one bird was killed and another injured. But for these unfortunate happenings it is possible that the finish between Mr. de Garis's team and the leading one would have been very close. In the circumstances I am more than pleased to record that Mr. de Garis's team of Black Orpingtons won in the Heavy Breed Section, with the good score of 477 eggs.

The second prize goes to Wingood Poultry Yard, with the good total of 473 eggs, only eight of which were second grade. This team has gained in condition rapidly during the last few weeks, and though apparently not quite as fit as the Wingood champion team of last year, they will, if they are not winners in their section at the end of the competition, almost certainly occupy a high place.

In Section B, Light Breeds, the first prize was won by Mr. H. Hanbury, whose pullet laid 103 eggs, only six of them of second grade.

Khaki Campbell Duck, owned by Mr. M. G. Leech.

Laid 123 eggs in 122 days during the Winter Test. All first grade. Dam laid 281 eggs in 12 months; sire's dam laid 260 eggs in 12 months.

The second prize goes to Mr. D. McDonnell, whose bird laid 98 eggs, only one of which was second grade.

In the Heavy Breed Section a very fine performance was put up by a Black Orpington pullet owned by Mr. T. R. Ward, of Elsternwick: she laid 114 eggs, only three of which were second grade. The second prize was awarded to the Wingood Poultry Yard for a pullet which laid 109 eggs, all first grade.

On pages 567-9 is a list of the winners of certificates for the Winter Test.

DUCKS.

—	Name and Address of Competitor.	Pen No.	Bird No.	No. of Eggs.			Value.	Breed.
				1st Grade.	Under-weight.	Total.	£ s. d.	
Section A.—Groups of Six Birds.								
TEAMS OF SIX BIRDS.								
First Prize (Champion Certificate)	M. G. Leech, Trevallyn Poultry Farm, Sydney-road, Campbellfield	1–6	..	663	..	663	5 18 11	Khaki Campbell
Second Prize (Government Certificate)	W. L. Newton, Ashley Hill Poultry Farm, Woodstock	13–18	..	549	..	549	4 18 7	Fawn and White Indian Runners
INDIVIDUAL BIRDS.								
First Prize (Champion Certificate)	M. G. Leech, Trevallyn Poultry Farm, Sydney-road, Campbellfield	..	3	123	..	123	1 2 1	Khaki Campbell
Second Prize (Government Certificate)	M. G. Leech, Trevallyn Poultry Farm, Sydney-road, Campbellfield	..	2	114	..	114	1 0 7	Khaki Campbell
Section B.—Groups of Three Birds.								
GROUPS OF THREE BIRDS.								
First Prize (Champion Certificate)	M. G. Leech, Trevallyn Poultry Farm, Sydney-road, Campbellfield	40–42	..	339	..	339	3 1 1	Khaki Campbell
Second Prize (Government Certificate)	M. Burns, Rose Hill Poultry Farm, Spring-road, Springvale	55–57	..	309	..	309	2 16 2	Light Breed Rouen
INDIVIDUAL BIRDS.								
First Prize (Champion Certificate)	M. G. Leech, Trevallyn Poultry Farm, Sydney-road, Campbellfield	..	40	118	..	118	1 1 4	Khaki Campbell
Second Prize (Government Certificate)	M. Burns, Rose Hill Poultry Farm, Spring-road, Springvale	..	57	118	..	118	1 1 3	Light Breed Rouen

HENS.

—	Name and Address of Competitor.	Pen No.	Bird No.	No. of Eggs. 1st Grade.	2nd Grade.	Under-weight.	Total.	Value. £ s. d.	Breed.
Section A.—Groups of Six Birds Trap-nested.									
Light Breeds.									
Six Birds.									
First Prize (Champion Certificate)	W. H. Bamford, 74 Adelaide-road, Glenelg, South Australia	19	..	462	16	..	478	4 5 11	White Leghorn
Second Prize (Government Certificate)	G. Pocknall, 138 Dundas-street, Thornbury, N. 17	18	..	325	128	1	453	3 16 8	„ „
Individual Birds.									
First Prize (Champion Certificate)	G. B. Brown, 6 Fairfield-avenue, Camberwell, E. 6	3	3	92	5	..	97	0 17 4	White Leghorn
Second Prize (Government Certificate)	A. Enticknap, 266 High-street, Prahran, S. 1	33	6	84	14	..	98	0 16 11	„ „
Heavy Breeds.									
Individual Birds.									
First Prize (Champion Certificate)	F. R. de Garis, "Hilfred," Halloway-road, Sandringham, S. 8	42	5	99	2	..	101	0 18 1	Black Orpington
Second Prize (Government Certificate)	T. L. Eastaugh, Point Nepean-road, Highett, S. 21	41	4	97	..	..	97	0 17 4	„ „
Six Birds.									
First Prize (Champion Certificate)	F. R. de Garis, "Hilfred," Halloway-road, Sandringham, S. 8	42	..	427	50	..	477	4 6 3	Black Orpington
Second Prize (Government Certificate)	"Wingood" Poultry Yard (T. A. Goodwin), 8 Peel-street, Kew, E. 4	46	..	465	8	..	473	4 2 2	„ „

HENS—*continued.*

— —	Name and Address of Competitor.	Pen No.	Bird No.	No. of Eggs.				Value.	Breed.
				1st Grade.	2nd Grade.	Under-weight.	Total.	£ s. d.	
Section B.—Individual Birds. Single Test.									
Light Breeds.									
First Prize (Champion Certificate)	H. Hanbury, "Eileen," High-street, Prahran, S. 1	12	..	97	6	..	103	0 18 2	White Leghorn
Second Prize (Government Certificate)	D. McDonnell, 150 Camberwell-road, Hawthorn East, E. 3	3	..	97	1	..	98	0 17 6	„ „
Heavy Breeds.									
First Prize (Champion Certificate)	T. R. Ward, 81 Point Nepean-road, Elsternwick, S. 4	153	..	111	3	..	114	1 0 3	Black Orpington
Second Prize (Government Certificate)	"Wingood" Poultry Yard (T. A. Goodwin), 8 Peel-street, Kew, E. 4	127	..	109	..	..	109	0 19 9	„ „

CLEANLINESS IN DAIRYING.

Extracts from a Wireless Talk by Mr. R. Crowe, Exports Superintendent.

From experience, it is found that if even a small proportion of milk or cream which has been contaminated is added to a large quantity of good milk or cream, the quality of the mixture will be inferior. Whilst the lowering of quality may not be noticeable at all when the butter or cheese is freshly made, in the course of a few days it will be found that the product lacks keeping qualities. For instance, butter may grade when it is fresh as high as 94 points, but four or five days afterwards it may not merit more than 87 or 88 points. When it is shipped to London and offered for sale eight or nine weeks after manufacturing, its inherent defects will be easily noticeable.

Cleanliness is next to godliness. Milk from a healthy cow, if put into a sterilized bottle without permitting contamination in the process, would keep indefinitely. It has been proved experimentally, but even under the most hygienic conditions it is found impracticable to do this in every day practice. However, this fact can be taken as a starting point. If it be kept in mind, dairymen will realize the necessity for adopting cleanly methods in milking operations. The udders and teats of the cows, as well as the milkers' hands, should be clean; the milk buckets should be clean, as well as other milk vessels, the cream separators, and the cream cans. Superficial cleanliness is not sufficient. The utensils should be cleansed before each milking time to as near the point of sterility as possible.

Milk, when exposed to a dusty atmosphere, is allowed to collect dust, and a dairyman has only to think for a moment to realize what this dust is composed of when it comes from the neighbourhood of the milking shed or dairy. It is obvious, therefore, that yards and surroundings should be at all times kept free from manure and dust. The manure should not be allowed to accumulate, but be carted away to a distance at frequent intervals.

Milk and cream are absorbents of odours; hence, it is necessary to store them away from the fumes of oil engines or kerosene and such like. The dairy itself, as well as the surroundings, should be kept sweet and clean and free from objectionable smells of all kinds.

Where milking machines are used, they should receive special attention. Last year the Department of Agriculture forwarded particulars to every user in the State of the best method for cleaning milking machines. Notwithstanding this, many machines have recently been found which were not properly cleaned. Wherever demonstrations regarding the proper cleansing of machines have been given by officers of the Department, the owners have been most grateful, and if they follow out the methods shown, no trouble will be encountered in future at those places. Unfortunately, there are not sufficient officers available to visit every user of a milking machine.

Those who are concerned should take immediate action and see to it that their machines are properly cleansed after each operation.

The rubbers and teat cups will be improved by cleansing in boiling water, to which a little caustic sode is added. The milk pipe line and taps should be carefully attended to, whilst the vacuum pipe lines and chamber should have close attention. Milk should be run over a pipe cooler through which water at the lowest temperature available on the farm is running. Cream should be similarly treated as it flows from the separator into the cream cans. The lower the temperature to which milk and cream are reduced, the better they will keep.

ORCHARD AND GARDEN NOTES.

E. E. Pescott, F.L.S., Pomologist.

The Orchard.

SPRAYING.

The peach aphis will now have made its appearance in orchards which were not sprayed with the red oil emulsion in the winter. The tobacco solution will now be required, and this may be sprayed on as strongly as the grower wishes. If possible, a second spraying should be repeated quickly after the first operation, so as to kill any aphides previously protected by the others, or any that may have only been weakened by the first operation.

The time has also arrived when spraying is needful for the prevention of all fungus diseases, such as shothole or scab, black spot, leaf rust, leaf curl, &c. In the case of these pests, "prevention better than cure" is the invariable rule; and to delay beyond the correct period the application of the necessary sprays is to court disaster. For black spot of the apple and pear, the spraying should be performed as soon as the earliest flowers are opening. For shothole and scab the time to spray is before the flower petals expand; and the spraying may be repeated, if necessary, after the fruit has set.

For rust and leaf curl the spray should be applied before any sign of the trouble appears on the foliage; thus, if the fungus were present during the previous season, it will be necessary to spray early to combat it successfully.

The basis of all the successful fungicides is sulphate of copper or bluestone. Bordeaux mixture (a mixture of bluestone, lime, and water, known as the 6.4.40 formula), is used; the materials and quantities being 6 lb. bluestone, 4 lb. lime, and 40 gallons water.

Another spray, and in some locations equally successful in its results as the Bordeaux mixture, is the copper-soda spray, the proportions being 6 lb. bluestone, 8 lb. washing soda, and 40 gallons of water. In each case the materials should be separately dissolved, and then evenly and simultaneously mixed in a third vessel.

It is very urgent that the lime should be thoroughly fresh and quick, otherwise the spray mixtures will give very inferior results. A second

necessary point is that the copper sprays should be used as soon as they are made. Where the grower does not wish to make his own spray, there are quite a number of ready-made Bordeaux pastes and Bordeaux mixtures already on the market, which can be used with satisfactory results. In fact, the use of these has become fairly general, and it is not now the practice for growers to make their own sprays.

General.

It is most important that ploughing should be completed as early as possible. In the past, it has very frequently happened that, owing to delaying the ploughing, the orchard and the fruit crop have both suffered very considerably. It is absolutely necessary to cultivate the surface early, to take advantage of the moist surface and consequent easy ploughing; and also to conserve as large an amount of moisture in the soil as possible. The longer the ploughing is delayed, the less amount of moisture is retained in the soil for summer use. Deferred ploughing certainly means dry soil, enfeebled trees, and diminished results. Early ploughing gives exactly opposite results; the earlier the ploughing, the more soil water is conserved.

When the ploughing is completed, the clods should be crushed, and the land harrowed, so that a fine earth mulch may be obtained. The orchard surface should be kept as level as possible, and no irregular ridging or furrows should be allowed.

All cover crops planted to supply humus to the soil should now be ploughed in. If the plants are of a leguminous nature, the best time to plough these in is when they are in full flower. If the growth has been at all excessive or rank, the crop may be rolled before ploughing; or it may be cut or mowed with a mowing machine. Every care should be taken that the plants should be distributed evenly over the ground, and large quantities in a mass should not be ploughed under. Artificial and stable manures may also be given to the trees at this time. These should be applied before ploughing.

Grafting.

The work of grafting should be completed early in the month. The most useful method of re-working old trees is to cut the head right off, leaving only the stump. Then grafts can be put in according to the fancy of the grower. The old method of cleft grafting has been superseded by the bark or crown graft. The latter method does not cause any damage to the wood and thus, with care, no rotting can take place. The best method of bark grafting is the saddle graft; that is, the graft is inserted in the bark and a strip of bark is carried right across the trunk and inserted in the bark on the opposite side. This method is much slower than the ordinary bark graft, but it insures a much quicker healing over the old stump.

The Vegetable Garden.

The vegetable plots should be cleaned from all weeds, having the light weeds dug in and the stronger ones pulled out and rotted in the compost heap. The surface should be worked up to a very fine tilth after digging; it must be kept constantly loose with the hoe to keep the

soil cool; and prior to digging it will be advantageous to give a top dressing of lime.

If the weather be dry or windy, all newly-planted plants should be frequently watered. In transplanting seedlings, it is a help to dip the whole plant in water before planting.

Any seedlings that are ready may be planted out; the first crop of tomato plants may be planted out under shelter until the frosts are over. At the end of the month a sowing of French bean seeds may be made. Seeds of peas, broad beans, and beet, cabbage, kohl-rabi, and radish, turnip, cauliflower, lettuce, carrot, parsnip, &c., may be sown in the open. Seeds of melons, cucumbers, pumpkins, marrows, and similar plants may be planted in frames for transplanting after the frosts have gone.

The Flower Garden.

After digging the surface must be kept constantly stirred with the hoe, so as to have it loose and friable for cooling and for moisture-conserving purposes. All weeds must be kept down, as they are robbers of plant food and moisture at this season of the year. Shrubs of all kinds may still be planted out, and these should be well watered after planting. Rose and other aphides must be watched for, and sprayed when they appear with a nicotine spray. Rose scale should be sprayed with lime sulphur wash or with kerosene emulsion. This pest will soon disappear if the bushes are kept open to admit air and the sunlight freely. Rose mildew will now be appearing, and the plants, as well as the soil, should be sprinkled with liberal dustings of sulphur. Sulphide of potassium is also a good specific for this fungus trouble, using it at the rate of 1 oz. to 3 gallons of water.

Cannas, early chrysanthemums, and early dahlia tubers may be planted out, as well as all kinds of herbaceous plants, such as delphiniums, perennial phlox, asters, &c. These clumps should be well broken up, and in planting they should be fed with a liberal quantity of stable manure or bonedust, using 6 ounces per square yard. Beds should be prepared and well dug over for exhibition chrysanthemums and dahlias.

REMINDERS FOR OCTOBER.

LIVE STOCK.

HORSES.—Continue to feed stabled horses well, add a ration of green-stuff. Rug at night. Continue hay or straw, chaffed or whole, to grass-fed horses. Feed old or badly-conditioned horses liberally. If too fat, mares due to foal shortly should be put on poorer pasture. Mares with foals at foot should receive a good ration of oats daily. Those intended for breeding, if not already stinted, should be put to the horse. Colts not intended to be kept as stallions should be gelded. Working horses due for a spell should be turned out to grass.

CATTLE.—Except on rare occasions, rugs may now be used on cows at night only. Continue giving hay or straw, if possible, to counteract the effect of green grass. Be prepared for milk fever. Leaflet on the subject is obtainable from the Department of Agriculture. Give calves a dry shed and a good grass run. Continue giving milk at blood heat to calves. Be careful to keep utensils clean, or diarrhœa will result. Do not give too much milk at a time for the same reason. Feed regularly with regard to quantity and time. Give a cup of limewater in the milk to each calf, also place crushed oats or lucerne hay in a trough so that they can eat at will.

Sow maize for summer feeding and ensilage, also Japanese millet for grazing during dry summer months. Mow surplus grass for hay. If cut when the grass or trefoils are in bloom, grass hay will be as good fodder as any cerial hay. If top-dressed with phosphatic or farm yard manure, good returns will be obtained from grass hay; it has also the great advantage that mice will not work in it Cut 1 acre for each cow in the herd; it will keep until the next drought if protected from the weather.

PIGS.—Supply plenty of bedding in warm, well-ventilated styes. Keep styes clean and dry, and feeding troughs clean and wholesome. Sows suckling young should be well fed to enable them to produce plenty of milk; about 2 lb. grain mixture for the sow, and 1 lb. for each young one being suckled. Give young pigs grain mixture and skim milk in separate trough as soon as they will take it, and keep them fattening from the start to get them off as early as possible. Give a tablespoonful of bone meal per 100 lb. live weight in food daily. If pigs are lousy dress them with kerosene emulsion, or sulphur and lard, or waste motor oil, rubbing well into the crevices of skin, and disinfect styes. Pig breeding and feeding should be very profitable for a long time to come, and it should be safe to launch out now.

SHEEP.—Shear as early as the weather will permit, and avoid the usual excessive dust in travelling to, and yarding at sheds. Burr and seeds also collect on the fleeces if shearing be left until late in the season, particularly with lambs. Shear all lambs intended to be held over—they thrive better and make more growth through the ensuing summer and autumn.

As soon as the belly is shorn, remove any stains from the wool. If the wool be free from burr, skirt very lightly, taking off only the dirty, fribby edges. If a fleece be carrying burr to the extent of about 6 inches deep all round, it should be skirted that depth, so as to make the portion left on the table free. If the fleece be very burry, all that the farmer can do is to remove the dirty, fribby edges.

In rolling a fleece of wool, turn back the neck and britch ends one-third of the way; divide the fleece in half, and in half again, and roll the britch to the neck. In this way the shoulder and rib wool will be exposed, and make the fleece look as attractive as possible.

Avoid sending wool to market in long, round-sided bales, known as "sew-downs." Press in a box-press, forming square sides. Brand bales neatly, and on the flat side do not use sheep-branding oil, tar, or paint. Stencil plates and branding ink can be obtained on application to the respective brokers.

POULTRY.—The bulk of incubation should cease this month—late chickens are not profitable. Devote attention to the chickens already hatched; avoid overcrowding. Feed with dry mash. Also add plenty of green food to ration. ordinary feeding to be part pollard, 1 part bran. and a little dried milk, animal food after the first fortnight. Feed ground grain, such as wheat, hulled oats, maize, and peas, which should be fed in hopper to avoid waste. Grit or coarse sand should be available at all times. Variety of food is important in growing chicks; insect life aids growth. Remove brooders to new ground as often as possible; tainted ground will retard development.

CULTIVATION.

FARM.—Plant main crops of potatoes in early districts and prepare land for main crop in late districts. Work fallows. Sow maize and millets where frosts are not late, also mangolds, beet, carrots, and turnips. Sow tobacco beds and keep covered with straw or hessian.

Orchard.—Ploughing and cultivating to be continued, bringing surface to a good tilth, and suppressing all weeds. Spray with nicotine solution for peach aphis, with Bordeaux mixture for black spot of apple and pear, and with arsenate of lead for codlin moth in early districts.

Vegetable Garden.—Sow seeds of carrot, turnip, parsnip, cabbage, peas, French beans, tomato, celery, radish, marrow, and pumpkins. Plant out seedlings from former sowings. Keep the surface well pulverized.

Flower Garden.—Keep the weeds down and the soil open by continued hoeing. Plant out delphiniums, chrysanthemums, salvia, early dahlias, &c. Prepare ground for digging and manuring for autumn dahlias. Plant gladioli tubers and seeds of tender annuals. Spray roses for aphis and mildew.

Vineyard.—This is the best month for field grafting. If stocks bleed too copiously, cut off a day or two before grafting. Make sure that scions are fresh. Placing butts in clean water for a day before grafting is recommended. Field grafts *must* be staked, to avoid subsequent straining by wind and to ensure straight stem for future vine. Stakes are also necessary for grafted rootlings for same reasons. Temporary stakes 3 feet long will suffice. Disbud and tie up vines, giving special care to young plantations. Beware of spring frosts. Keep a sharp look out for cut worms. (Bulletins on both subjects will be posted on application.)

Conclude spring cultivation (second ploughing or scarifying and digging or hoeing round vines). Weeds must be mastered and whole surface got into good tilth. Sulphur vines when shoots 4 to 6 inches long.

Varieties liable to black spot should be sprayed early (when shoots are a couple of inches long) with Bordeaux or copper soda—repeated sprayings will be necessary should the spring prove a wet one. (Bulletins on black spot will be posted on application.)

During October, spraying for protection against Downy Mildew *must* receive attention. A first or preliminary spraying should be given when the young bunches are *at their maximum visibility*. This varies with the season; it is usually in the first half of October. Subsequent sprayings will be necessary in a showery Spring. See Bulletin No. 49; available on application.

Cellar.—Taste all young wine; beware of dangerous symptoms in unfortified fruity wines, which may need treatment. Fill up regularly all unfortified wines

28.9.28

[Supplement to the *Journal of the Department of Agriculture of Victoria*, September, 1928.]

STANDARD HERD TEST.

10844.

STANDARD HERD TEST.

COWS IN ORDER OF MERIT.

MATURE COWS. (Over 5 Years at time of calving.) 350 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Fairy of Willow Park ..	W. K. Atkinson ..	Milking Shorthorn	15,084	4·28	645·81	Stratagem of Willow Park
2	Eco. Sylv. Belle ..	O. J. Syme ..	Friesian	18,531	3·43	636·36	Champion Echo Sylvia Ponteac
3	Bainfield Topsy 13th ..	O. J. Syme ..	,,	16,079	3·95	634·85	Rosevale King Sylvia
4	Miss Guy of Tarnpirr ..	F. Trevaskis ..	Jersey	11,091	5·69	631·47	Mythic's Choice of Tarnpirr
5	Bolobek Agnes ..	O. J. Syme ..	Friesian	19,497	3·24	630·92	Rhoda Prince of Rubicon
6	Cherry of Willow Park	W. K. Atkinson ..	Milking Shorthorn	16,245	3·88	629·94	Havelock of Darbalara
7	Tiny Choice of Belgonia	P. J. Maloney ..	Jersey	10,383	6·02	624·56	Hedge of Banyule
8	Tarrawarra 56 ..	J. Plattfuss ..	Friesian	20,931	2·97	621·42	Count Togo
9	Ashlyn 71	Flack and Gamble	,,	15,333	3·93	603·28	Royal King Champion
10	Harebell of Springhurst	D. Cameron and Son	Jersey	10,637	5·65	600·71	Superior V.C. of Tarnpirr
11	Monavale Juno Paxton	J. Plattfuss ..	Friesian	16,939	3·51	595·24	Prince Pietje Paxton
12	Norma of Terara ..	Aveley Stud Farm Pty. Ltd.	Jersey	9,722	6·10	593·44	Carnegie of Terara
13	Myra of the Wattles ..	N. H. Enders ..	,,	12,398	4·77	591·73	Laddie 2nd of Banyule
14	Princess 2nd of Strathbow	J. E. Handbury and Sons	,,	10,401	5·63	585·92	Golden Mac of Strathbow
15	Halecote Oakleaf Fobes	Smith and Sons ..	Friesian	15,512	3·77	584·56	Dominion Oakdale
16	Bolobek Damsel ..	O. J. Syme ..	,,	15,699	3·72	584·25	Rhoda Prince of Rubicon
17	Tiddlewinks of Banyule	C. G. Lyon ..	Jersey	9,657	5·98	577·70	Milkmaid's Chief of Banyule
18	Cora 2nd of Kameruka	H. V. MacLeod ..	,,	8,480	6·74	571·19	Milkmaid's Prince of Kameruka
19	Tecoma of Springhurst..	J. D. Read ..	,,	11,363	4·97	564·86	Cossock of Springhurst
20	Molly 8th of Banyule ..	C. G. Lyon ..	,,	10,775	5·16	555·75	Milkmaid's Chief of Banyule
21	Marie 2nd of Belgonia ..	P. J. Maloney ..	,,	10,919	5·06	553·00	Choice Boy of Belgonia
22	Wattle of Springhurst ..	P. J. Maloney ..	,,	11,337	4·85	550·29	Brighton Cub
23	Gladiolus of Springhurst	J. D. Read ..	,,	9,785	5·59	547·41	Aracdia's Choice of Tarnpirr
24	Lassie of Strathbow ..	J. E. Handbury and Son	,,	10,391	5·22	542·21	Golden Mac of Strathbow
25	Betty of Lone Gum ..	E. Day	,,	10,401	5·16	537·19	Nobility 3rd
26	Primrose 2nd of Melrose	R. Maher ..	,,	9,071	5·85	530·98	Golden Fern's Viscount
27	Purity of Hazeldale ..	A. J. Mapleson ..	,,	10,794	4·88	527·22	Dinkum of Banyule
28	Molly 10th of Banyule	Simpson and Son ..	,,	10,771	4·89	526·82	Prince Noreen
29	Day Star of Woorayl ..	Leongatha High School	,,	8,516	6·13	522·18	Cream Duke of Glen Iris
30	Mystery of Belgonia ..	P. J. Maloney ..	,,	10,047	5·20	522·17	Hedge of Banyule
31	Blush of Willow Park ..	W. K. Atkinson ..	Milking Shorthorn	12,597	4·09	515·40	Havelock of Darbalara
32	Jessie of Meridale ..	A. J. Mapleson ..	Jersey	8,086	6·34	513·05	Big Chief of Glen Iris
33	Boronia of Lumeah ..	J. Charlton ..	,,	10,052	5·10	512·36	Jewel's Boy of St. Albans
34	Audrey of Woorayl ..	G. and W. Smith ..	,,	7,892	6·49	512·18	Cream Duke of Glen Iris
35	Defender's Favourite of Boorene	A. A. Broad ..	,,	9,672	5·24	506·49	Fox's Nonpariel of Boorene
36	Pearl's Gem of Kirkhill	G. and W. Smith ..	,,	9,213	5·47	504·05	Lindas Record 6th of Kingsvale
37	Blossom of Belgonia ..	P. J. Maloney ..	,,	11,508	4·35	500·14	Hedge of Banyule
38	Empress 3rd of Jerseyholm	T. Harvey ..	,,	8,763	5·67	497·20	New Alliance of Jerseyholm
39	Mercede's Belle of Avalon	F. Austin ..	,,	9,291	5·33	495·15	Mercede's Chief of Glen Iris
40	Jessie of Hazeldale ..	A. J. Mapleson ..	,,	8,934	5·47	488·29	Big Chief of Glen Iris
41	Dolly 4th of Glengowrie	Telford Bros. ..	Ayrshire	10,928	4·47	488·18	Bruce 2nd of Glengowrie
42	Cinnamon of Cloverfield	Simpson and Son ..	Jersey	9,407	5·16	485·40	Big Chief of Glen Iris
43	Lassie Fowler 8th of Melrose	R. Maher ..	,,	8,720	5·54	483·52	Golden Fern's Viscount
44	Dodo of Clarendon Eyre	A. J. Mapleson ..	,,	8,526	5·66	482·86	Lotina's Larkspur's Twylish
45	Patricia of Warenda ..	W. A. Axford ..	,,	8,168	5·90	481·79	Jessie's Handsome Boy
46	Victoria Reparation ..	Department of Agriculture, Werribee	Red Poll	12,111	3·93	476·46	Nicotine
47	Burnbank Inka Sylvia Violet	J. T. Tweddle ..	Friesian	10,845	4·39	475·60	Rosevale Inka Burkeyje
48	Lady Grey 26th of St. Albans	Simpson and Son ..	Jersey	10,547	4·51	475·21	King 3rd of St. Albans

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
49	Handsome Girl 10th of Melrose	W. Woodmason ..	Jersey	8,222	5·75	472·88	Golden Fern's Viscount
50	Midnight of Clover Flat	E. Day	,,	9,150	5·12	468·16	Prince Noreen
51	Ada of Rosencath ..	R. Goodman ..	Ayrshire	11,286	4·10	462·90	Selkirk of Rythdale Park
52	Tulip 2nd of Springhurst	J. D. Read ..	Jersey	8,540	5·41	461·83	Attraction of Springhurst
53	Noorat Gossamer ..	Mrs. A. Black ..	,,	8,772	5·24	460·01	Best Choice of Tarnpirr
54	Preston Dairy Girl ..	H. A. Schier ..	,,	9,426	4·88	459·59	Acacia King
55	Graceful Duchess 29th of Melrose	T. J. Scott ..	,,	7,557	6·08	459·10	Jessie 13th's Count of Melrose
56	Graceful Duchess 19th of Melrose	W. Woodmason ..	,,	7,448	6·16	458·81	Handsome Boy 5th of Melrose
57	Daisy 2nd of Grangelea	A. A. Broad ..	,,	7,442	6·15	457·80	Golden Twylish
58	Dianthus of Springhurst	D. Cameron and Son	,,	7,215	6·32	455·94	Arcadia's Choice of Tarnpirr
59	Beatrice of Holbrook ..	A. E. Ellis ..	,,	8,486	5·33	452·54	Tiny Tim of Kelburn
60	Audrey Lotus of Banyule	C. G. Lyon ..	,,	10,454	4·33	452·29	Audrey's Lord Twylish
61	Gerty 3rd of Carracoorte	W. Henderson ..	Ayrshire	9,903	4·56	452·03	Victorious of Warrook
62	Silvermine 22nd of Banyule	C. G. Lyon ..	Jersey	8,990	5·01	450·22	Audrey's Lord Twylish
63	Hibiscus of Springhurst	Aveley Stud Farm Pty. Ltd.	,,	9,588	4·68	448·72	Petain of Springhurst
64	Dream Girl of Woodside	Miss S. L. Robinson	,,	8,259	5·43	448·42	Goldfinder
65	Pearl of Hazeldale ..	A. J. Mapleson ..	,,	9,161	4·87	446·51	Dinkum of Banyule
66	Bluebell 3rd of Jerseyholm	T. Harvey ..	,,	7,950	5·61	446·25	Emperor
67	Lassie Fowler of Rosemont	R. H. Maher ..	,,	8,065	5·52	445·43	Cobber of Banyule
68	Floss of Tuerong ..	G. Esler	,,	7,967	5·59	445·29	Quality's 6th Son of Melrose
69	Peerless Brenda of Rosevale	A. Joshua ..	,,	6,801	6·54	444·92	Peerless Magnet of Garden Hill
70	Werribee Wyandotte Cream	D. Cameron and Sons	,,	8,454	5·23	442·49	Werribee Wyandotte Fancy
71	Muriel of Dudleigh ..	R. Masters ..	Ayrshire	9,876	4·48	442·36	Bernie of Oakbank
72	Canary 12th of King's Vale	J. Anderson, junr...	Jersey	9,123	4·82	439·47	Bonnie Lad of King's Vale
73	Goldfinch 2nd of Grangelea	A. A. Broad ..	,,	7,947	5·51	437·77	Golden Twylish
74	Viola 4th of Carracoorte	W. Henderson ..	Ayrshire	9,936	4·40	437·07	Lord Dudley of Gowrie Park
75	Rosebud 2nd of Brookfield	J.. H. Huffer ..	Jersey	8,888	4·92	436·88	Rarity's Fawn Duke of Melrose
76	Agnes 2nd of Warenda..	T. Mesley ..	,,	7,195	6·05	435·38	Jazz of Warenda
77	Silvermine of Strathbow	H. V. MacLeod ..	,,	7,662	5·66	433·82	Golden Mac of Strathbow
78	Canary 5th of Lesterfield	T. M. Noble ..	,,	7,364	5·88	433·29	Quality's 6th Son of Melrose
79	Lady Elector 9th of Melrose	W. A. Axford ..	,,	8,549	5·05	432·03	Golden Fern's Viscount
80	Peggy of Parkview ..	J. McDougall ..	,,	8,817	4·89	431·45	Tony of Parkview
81	Werribee Islands Clementine 2nd	J. V. M. Wood ..	,,	7,610	5·67	431·28	Island's Butter King
82	Romany Girl 4th of Tarnpirr	E. Hall	,,	9,106	4·73	430·54	Eminent V.C.
83	Burnbank Woodcrest Marchioness	Flack and Gamble	Friesian	12,765	3·37	429·57	Burnbank Marquis 2nd
84	Springfield Ideal Keys	J. Plattfuss ..	,,	13,421	3·19	428·11	Rosevale Ideal Keys
85	Braemore Marjory ..	I. Padgett ..	,,	11,870	3·60	427·42	Dominion Gay Mercedes
86	Rarity 11th of Melrose	H. Cowling ..	Jersey	7,896	5·39	425·55	Handsome Boy 5th of Melrose
87	Maid 2nd of Linden ..	Gibson Bros. ..	,,	7,652	5·56	425·21	Chief of Linden
88	Waipiko Favour ..	J. V. M. Wood ..	,,	9,009	4·68	421·47	Majesty's Eminent
89	Chevy 13th of Melrose	H. Cowling ..	,,	7,584	5·53	419·49	Golden Fern's Viscount
90	Rosebud 2nd of Brookfield	J. A. Huffer ..	,,	8,547	4·88	417·25	Rarity's Fawn Duke of Melrose
91	Quality of Meadowvale	W. H. Atherton ..	,,	6,878	6·04	415·60	Handsome Lad of Woodville
92	Poppy 2nd of Hillcrest..	Mrs. E. M. Lennie	,,	6,401	6·46	413·67	Retford Peer
93	Attraction of Tuerong ..	Aveley Stud Farm Pty. Ltd.	,,	6,984	5·92	413·11	Island Butter King
94	Maid 3rd of Linden ..	O. Gepp ..	,,	6,555	6·29	412·18	Chief of Linden
95	Werribee Island Madeira 2nd	J. V. M. Wood ..	,,	7,583	5·43	412·03	Island's Butter King
96	Princess of Woolamai Park	G. Kent	Ayrshire	9,623	4·26	410·35	Beauty's Majestic of Gleneira
97	Lenora Canary ..	Flack and Gamble	Friesian	10,320	3·97	410·13	Sir Canary Pietje
98	Lily's Queen of Holly Green	H. L. Webb ..	Ayrshire	10,920	3·76	410·10	Glady's Pride of Wilson House

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
99	Princess of Willow Park	W. K. Atkinson ..	Milking Shorthorn	10,917	3·76	410·01	Havelock of Darbalara
100	Idalia of Wethersdane ..	Pinkerton Bros. ..	Ayrshire	9,644	4·24	408·94	His Majesty of Wethersdane
101	Countess Matilda 4th ..	Miss S. L. Robinson	Jersey	7,380	5·54	408·74	Bermunda's You'll Do Lad
102	Princess 3rd of Grangelea	A. A. Broad ..	Jersey	8,019	5·09	408·07	Golden Twylish
103	Begonia of Sunnyside ..	R. Masters ..	Ayrshire	9,519	4·29	407·91	Bernie of Oakbank
104	Handsome Girl 9th of Melrose	W. A. Axford ..	Jersey	6,501	6·27	407·56	Golden Fern's Viscount
105	Rosebud 2nd of Grangelea	A. A. Broad ..	„	7,669	5·31	407·52	Golden Twylish
106	Countess of Willow Park	W. K. Atkinson ..	Milking Shorthorn	8,936	4·54	405·93	Havelock of Darbalara
107	Ivy of Springhurst ..	W. H. Atherton ..	Jersey	8,241	4·92	405·52	Arcadia's Choice of Tarnpirr
108	Pleasure of Ben Kell ..	R. Ralston ..	Ayrshire	10,122	4·00	404·85	Alert of Ben Kell
109	Vanilla 11th of Melrose	W. Woodmason ..	Jersey	7,550	5·35	404·10	Handsome Boy 5th of Melrose
110	Nictitana	Department of Agriculture, Werribee	Red Poll	8,625	4·68	403·30	Nicotine
111	Bellona 4th of Carracoorte	W. Henderson ..	Ayrshire	8,828	4·56	402·26	Lord Dudley of Gowrie Park
112	Dorothy 2nd of Banyule	E. H. Howlett ..	Jersey	7,892	5·10	402·25	Milkmaid's Chief of Banyule
113	Fennella 7th of Carracoorte	W. Henderson ..	Ayrshire	9,680	4·15	401·62	Lord Dudley of Gowrie Park
114	Beryl of Sparrovale ..	Geelong Harbour Trust	„	8,741	4·57	399·90	Laird of Sparrovale
115	Floss of Tuerong ..	G. Esler	Jersey	8,211	4·87	399·78	Quality's 6th Son of Melrose
116	Viola 2nd of Carracoorte	W. Henderson ..	Ayrshire	8,910	4·48	399·13	Lord Dudley of Gowrie Park
117	Ruby Rose of Tarnpirr	J. Anderson, junr..	Jersey	7,542	5·27	397·27	Eminent V.C.
118	Carmen of Hillcrest ..	W. A. Axford ..	„	7,565	5·25	397·03	Bell Boy of Hillcrest
119	Kellevie Segis Victoria	J. M. Foster ..	Friesian	10,300	3·84	395·57	Woodcrest Netherland Pietje Pontiac
120	Silvermine 25th of Banyule	C. G. Lyon ..	Jersey	7,070	5·59	395·08	Lily 3rd's Prince of Ferntree Vale
121	Buttercup of Rockbank	C. Wade	„	7,194	5·49	395·08	Fairy Boy of St. Albans
122	Werribee Attraction's Fancy Madeira	P. Chirnside ..	„	6,782	5·82	394·48	Werribee Attraction's Fancy
123	Medick of Springhurst ..	J. D. Read ..	„	7,898	4·99	394·47	Superior V.C. of Tarnpirr
124	Gertrude of Carracoorte	W. Henderson ..	Ayrshire	8,342	4·73	394·45	Lord Dudley of Gowrie Park
125	Blanche of Willow Park	W. K. Atkinson ..	Milking Shorthorn	9,888	3·98	393·43	Havelock of Darbalara
126	Rarity of Meridale ..	A. J. Mapleson ..	Jersey	7,981	4·91	391·63	Big Chief of Glen Iris
127	Victoria Joybell ..	Department of Agriculture, Werribee	Friesian	10,235	3·82	390·73	Victoria Milkman Jo
128	Vanilla 18th of Melrose	J. Phillips ..	Jersey	6,520	5·99	390·41	Golden Fern's Viscount
129	Leonie of Clarendon Eyre	Simpson and Son ..	„	7,291	5·34	389·60	Lotina's Larkspur's Twylish
130	Audrey Lotus of Banyule	C. G. Lyon ..	„	8,829	4·41	389·53	Audrey's Lord Twylish
131	Lassie of Elouera ..	J. Clyne ..	„	6,546	5·94	389·02	Lily's Lad of Holmwood
132	Phyllis 2nd of Warenda	W. J. Harris ..	„	7,386	5·26	388·33	Jessie's Handsome Boy
133	Lena 3rd of Carracoorte	W. Henderson ..	Ayrshire	7,998	4·84	387·14	Problem of Willow Vale
134	Modest of Cathcart ..	A. W. Gorman ..	„	8,846	4·37	386·71	Lavendo of Glencairn
135	Betsy 10th of Carracoorte	W. Henderson ..	„	8,867	4·35	385·92	Lena's Fritz of Carracoorte
136	Balm 5th of Carracoorte	N. Gange ..	„	9,140	4·19	382·98	Heather Jock of Invergordon
137	Melilot of Springhurst ..	J. D. Read ..	Jersey	7,266	5·25	381·45	Petain of Springhurst
138	Nictitana	Department of Agriculture, Werribee	Red Poll	8,277	4·61	381·32	Nicotine
139	Lady Starbright of Bruce-vale	Aveley Stud Farm, Pty. Ltd.	Jersey	7,361	5·17	380·63	Island Butter King
140	Ella of Colac	N. C. De La Rue ..	„	7,607	5·00	380·58	Twylish Queen's Fox
141	Peerless 20th of Melrose	R. H. Maher ..	„	6,536	5·82	380·18	Golden Fern's Viscount
142	Daisy 6th of Jerseyholm	T. Harvey ..	„	7,550	5·03	379·91	Emperor
143	Damsel of Willow Park	W. K. Atkinson ..	Milking Shorthorn	8,622	4·40	379·71	Havelock of Darbalara
144	Pearl of Roseleigh ..	G. Gange ..	Ayrshire	9,102	4·16	378·56	Fuchsia's Frederick of Warrook
145	Sweet Bell of Rochdale	H. V. MacLeod ..	Jersey	6,600	5·74	378·55	Werribee Madeira's Northwood King
146	Grey Girl of Wattle Vale	D. E. Cook ..	„	6,403	5·90	377·80	Skim of Dunalister
147	Boronia of Sparrovale ..	Geelong Harbour Trust	Ayrshire	9,638	3·92	377·61	Jamie of Sparrovale
148	Melba of Hillcrest ..	A. Joshua ..	Jersey	7,811	4·81	376·10	Bell Boy of Hillcrest
149	Harmony of Hillcrest ..	Simpson and Son ..	„	7,760	4·83	375·10	Retford Peer
150	Mercede's Buttercup of Avalon	F. Austin ..	„	8,726	4·28	373·80	Mercedes' Chief of Glen Iris
151	Rosebud of Paradise ..	Simpson and Son ..	„	7,095	5·26	373·27	Big Chief of Glen Iris
152	Pansy of Timberton ..	F. Austin ..	„	6,738	5·54	373·18	Rumour of Tarnpirr

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
153	Werribee Fancy Clementine 2nd	W. Woodmason ..	Jersey	6,788	5·49	372·76	Sir Fancy's Madeira of Werribee
154	Cream Belle 3rd of Gnarbrook	Gibson Bros. ..	,,	6,738	5·53	372·75	Sir Antonio
155	Bainfield Sylvia Topsy 2nd	O. J. Syme ..	Friesian	9,602	3·87	371·30	Rosevale King Sylvia
156	Vanity of Woorayl ..	Leongatha High School	Jersey	5,510	6·73	370·77	Cream Duke of Glen Iris
157	Dominion Kathleen ..	Department of Agriculture, Werribee	Friesian	9,210	4·02	369·90	Woodcrest Jo
158	Kith of Tregorland ..	J. F. Tuckey ..	Ayrshire	8,154	4·52	368·61	Bonnie Earl of Gowrie Park
159	Coral of Dookie ..	Agricultural College, Dookie	,,	9,858	3·74	368·49	Maemus of Fernhill
160	Daphne of Lumeah ..	J. Charlton ..	Jersey	6,053	6·06	366·58	Jewel's Boy of St. Albans
161	Bright of Glen Alvie ..	G. Taylor ..	Ayrshire	8,849	4·14	366·54	Patron of Wethersdane
162	Ornitha	Department of Agriculture, Werribee	Red Poll	7,041	5·20	366·21	Nicotine
163	Victoria Rose Major ..	Department of Agriculture, Werribee	,,	9,573	3·83	366·20	Longford Major
164	Belladonna of Sparrovale	Geelong Harbour Trust	Ayrshire	8,483	4·31	365·40	Scottish King of Gowrie Park
165	Silver Wattle of Bellaire	W. H. Atherton ..	Jersey	7,829	4·66	365·09	Prince of Bellaire
166	Oakland's Sybil ..	Miss S. L. Robinson	,,	7,054	5·15	363·16	Sybil's Ruler
167	Filpail 11th of Carracoorte	W. Henderson ..	Ayrshire	9,131	3·97	362·05	Lena's Fritz of Carracoorte
168	Lady Grey 22nd of St. Albans	T. R. Findlay ..	Jersey	7,764	4·65	360·79	Brighton King 8th
169	Easter Daisy of Woodside	Miss S. L. Robinson	,,	7,436	4·85	360·68	Goldfinder
170	Adella of Invericigh ..	Dookie Agricultural College	Ayrshire	8,814	4·09	360·41	Warwick of Sparrovale
171	Laura of Rosemont ..	R. Maher ..	Jersey	6,423	5·60	359·92	Cobber of Banyule
172	Isabella Rose Dream ..	Miss S. L. Robinson	,,	6,316	5·69	359·61	Golden Poppy's O.K.
173	Milkmaid of Ferndale ..	J. E. Handbury and Sons	,,	6,579	5·46	359·39	Lord Grey of St. Albans
174	Eclipse's Vixen of Meadow Vale	J. Cook	,,	6,390	5·62	359·07	Rarity 8th Eclipse of Meadow Vale
175	Jessie of Willow Park ..	W. K. Atkinson ..	Milking Shorthorn	9,618	3·73	358·97	Havelock of Darbalara
176	Pride of Wattle Vale ..	D. E. Cook ..	Jersey	7,889	4·54	358·46	Skim of Dunalister
177	Jubilee Lily	G. Esler	,,	6,532	5·49	358·40	Twylish Madeira Fox 2nd of Werribee
178	Jean 2nd of Ashby ..	Dickinson Bros. ..	Friesian	10,103	3·55	358·16	Bolobek General
179	Grey Girl of Wattle Vale	D. E. Cook ..	Jersey	6,668	5·37	358·14	Skim of Dunalister
180	Verbena 4th of Brookfield	J. A. Huffer ..	,,	6,434	5·54	356·65	Rarity's Fawn Duke of Melrose
181	Lady Lauder of Warenda	W. A. Axford ..	,,	5,321	6·70	356·61	Choirmaster of Warenda
182	Cutty Sark	Department of Agriculture, Werribee	Red Poll	7,830	4·54	355·55	Belligerent
183	Lorna of Hillcrest ..	Mrs. L. Lowing ..	Jersey	8,453	4·20	354·81	Bell Boy of Hillcrest
184	May 2nd of Melksham Park	W. A. Axford ..	,,	7,365	4·81	354·20	Perree's King of Melrose
185	Preston Beauty ..	C. S. Walker ..	,,	8,082	4·37	352·98	Acacia King
186	Daphne of Wattle Vale	D. E. Cook ..	,,	7,695	4·59	352·87	Auburn of Kelburn
187	Flower 15th of Melrose	W. Woodmason ..	,,	6,534	5·40	352·72	Golden Fern's Viscount
188	Brownie 6th of Carracoorte	W. Henderson ..	Ayrshire	8,093	4·36	352·60	Lord Dudley of Gowrie Park
189	Pearl of Meridale ..	A. J. Mapleson ..	Jersey	6,143	5·74	352·48	Big Chief of Glen Iris
190	Burnbank Mercedes Violet	Flack and Gamble	Friesian	10,635	3·29	350·41	Dominion Gay Mercedes
191	Alsyke 2nd of Springhurst	J. D. Read ..	Jersey	5,703	6·13	349·58	Arcadia's Choice of Tarnpirr
192	Maggie of Longerenong	Longerenong Agricultural College	Ayrshire	7,293	4·78	348·68	Gay Lad of Sparrovale
193	Victoria Ghenta ..	Department of Agriculture, Werribee	Red Poll	8,378	4·16	348·62	Longford Major
194	Kyora Anthem ..	Miss S. L. Robinson	Jersey	6,927	5·03	348·61	Brown Duke of Glen Iris
195	Ruby of Jersey Vale ..	P. J. Ducat ..	,,	7,614	4·55	346·10	Choice 2nd of Tarnpirr
196	Melba of Sunnyside ..	R. Masters ..	Ayrshire	8,601	4·02	346·08	Bearnie of Oakbank
197	Bainfield Sylvia Topsy 6th	O. J. Syme ..	Friesian	8,496	4·07	345·88	Rosevale King Sylvia
198	Carnation of Ferntree Vale	J. Phillips ..	Jersey	6,925	4·99	345·75	Jessie's Handsome Boy
199	Cinderella 3rd of Wattle Vale	D. E. Cook ..	,,	6,986	4·95	345·74	Auburn of Kelburn
200	Pauline 3rd of Ashby ..	Dickinson Bros. ..	Friesian	10,067	3·43	345·02	Bolobek General

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
201	Queenie of Comely Banks	E. Hall	Jersey	6,641	5·19	344·94	Flower's 6th Nobleman of Melrose
202	Maid of Cathcart ..	H. L. Webb ..	Ayrshire	8,921	3·86	344·57	Lavendo of Glencairn
203	Hawthorn 8th of Banyule	H. V. MacLeod ..	Jersey	6,417	5·37	344·42	Audrey's Lord Twylish
204	Victoria Bellona ..	Department of Agriculture, Werribee	Red Poll	6,526	5·28	344·35	Belligerent
205	Gipsy Love of Woodside	W. Woodmason ..	Jersey	6,818	5·05	344·03	Goldfinder
206	Buttercup 2nd of Avalon	G. A. McNabb ..	,,	7,275	4·72	343·63	Brighton King 8th
207	Millie 2nd of Retreat ..	Salesian College ..	Ayrshire	8,365	4·11	343·63	Commonwealth of Retreat
208	Ladylike of Cathcart ..	A. W. Gorman ..	,,	8,168	4·20	343·46	Lavendo of Glencairn
209	Prue 4th of Carracoorte	W. Henderson ..	,,	7,151	4·80	343·19	Problem of Willowvale
210	Mayflower of Sparrovale	Geelong Harbour Trust	,,	7,850	4·36	342·64	Jamie of Sparrovale
211	Alfalfa of Springhurst ..	A. Evans ..	Jersey	6,413	5·31	340·67	Superior V.C. of Tarnpirr
212	Good Luck of Glenord	Cockbill Bros. ..	Ayrshire	7,704	4·42	340·54	Good Lad of Roxburg
213	Silvermine 24th of Banyule	C. G. Lyon ..	Jersey	7,133	4·76	339·87	Audrey's Lord Twylish
214	Jessie 24th of Melrose ..	W. Woodmason ..	,,	6,861	4·95	339·71	Golden Fern's Viscount
215	Minerva's Balm 4th of Carracoorte	W. Henderson ..	Ayrshire	7,463	4·55	339·43	Lord Dudley of Gowrie Park
216	Fennella 5th of Carracoorte	W. Henderson ..	,,	7,539	4·49	338·38	Victor 2nd of Carracoorte
217	Silvermine of Latrobe ..	E. H. Howlett ..	Jersey	6,710	5·04	338·04	Molly's Twylish of Banyule
218	Francie of Somerville ..	F. Harrison ..	,,	5,310	6·35	337·21	Cream Boy of Somerville
219	Colina of Methven ..	F. Raggatt ..	,,	5,937	5·67	336·54	Arcadia's Choice of Tarnpirr
220	Milkmaid 3rd of Banyule	W. S. Richardson ..	,,	6,904	4·87	336·53	Moleskin Chief of Banyule
221	Nancy Rosalind of Brookfield	W. Parbury ..	,,	7,038	4·78	336·40	Rarity's Fawn Duke of Melrose
222	Florence of Kelburn ..	J. McDougall ..	,,	7,281	4·62	336·04	Noble Lad of Kelburn
223	Boronia of Roseleigh ..	G. Gange ..	Ayrshire	8,103	4·14	335·18	Fuchsia's Frederick of Warrook
224	Connie of Glen Locksley	H. L. Webb ..	,,	8,660	3·86	334·68	Patrician of Glengowrie
225	Melba of Lumeah ..	J. Charlton ..	Jersey	6,173	5·40	333·62	Dolly's Twylish of Tarnpirr
226	Dahlia 2nd of Springhurst	C. W. Harris ..	,,	5,897	5·65	333·18	Alloy of Banyule
227	Rockbank Pet 2nd ..	H. Allez	Friesian	8,689	3·78	332·68	Lilydale Cheeseman De Kol 1st
228	Daisy of the Curragh ..	A. Hubbard ..	Ayrshire	7,871	4·22	332·42	Bernie of Oakbank
229	Lady Betty of Ellimatta	H. Dettmann ..	Jersey	7,596	4·36	331·14	Prince's Lady's Twylish of Fairview
230	Vanilla 15th of Melrose	L. W. Thompson ..	,,	5,456	6·07	330·94	Golden Fern's Viscount
231	Lady Kathleen of Gleneira	W. Henderson ..	Ayrshire	8,325	3·96	329·69	Harry Lauder of Lady Bank
232	Florrie 2nd of Warenda	W. J. Harris ..	Jersey	5,139	6·41	329·41	Choirmaster of Warenda
233	Petals of Rankcillor ..	D. Harker ..	Ayrshire	7,103	4·64	329·29	Patrician of Glen Gowrie
234	Pearl 13th of Melrose ..	S. K. Webb ..	Jersey	5,944	5·54	329·02	Golden Fern's Viscount
235	Preston Gay Girl ..	A. Balsillie ..	,,	6,264	5·24	328·49	Acacia King
236	Stella of Latrobe ..	E. H. Howlett ..	,,	6,005	5·45	327·52	Noble's Pride of Morwell Park
237	Sunrise of Roschill ..	E. G. Vagg ..	,,	7,005	4·66	326·72	Noble's Boy 3rd of Rochlands
238	Marcia of Holly Green	J. G. Lobb	Ayrshire	8,793	3·71	326·63	Glady's Pride of Wilson House
239	Constance's Peeress ..	Miss S. L. Robinson	Jersey	6,935	4·68	324·82	Substitute
240	Princess of Latrobe ..	E. H. Howlett ..	,,	7,003	4·26	323·97	Hazel's Noble of Morwell Park
241	Retford Promise ..	W. Woodmason ..	,,	5,659	5·72	323·88	Prometheus
242	Alma of Sunnyside ..	R. Masters ..	Ayrshire	9,182	3·52	323·39	Bernie of Oakbank
243	Princess Royal of Somerville	J. L. Gardener ..	Jersey	7,714	4·19	323·09	Werribee Madeira's Northwood King
244	Princess of Wyndarra ..	N. De La Rue ..	,,	5,906	5·44	321·32	Lauder of Colac
245	Victoria Beauteous ..	Department of Agriculture, Burnley	,,	4,653	6·90	320·90	Mariner of Wyuna
246	Golden Pareil 2nd of Boorne	W. S. Richardson ..	,,	4,944	6·48	320·43	Noble Direct of Boorne
247	Victoria Milk Belle ..	Department of Agriculture, Werribee	Friesian	9,566	3·33	318·95	Vic Milkman Joe
248	Bluebell of Aberdour ..	A. Balsillie ..	Jersey	5,879	5·42	318·84	Bouquet of Tarnpirr
249	Victoria Corunna ..	Department of Agriculture, Werribee	Friesian	8,666	3·68	318·69	Dominion Domino's Dutch Boy
250	Millie of Kelburn ..	D. E. Cook ..	Jersey	7,306	4·36	318·53	Music's 3rd Son of Melrose
251	Betty 3rd of Brookfield	W. Parbury ..	,,	6,669	4·75	316·66	Creek of Brookfield
252	Pansy of Rosemont ..	J. L. Gardener ..	,,	6,382	4·96	316·62	Carrie's 5th Noble of Melrose

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
253	Rose Bloom of Holly Green	H. L. Webb ..	Ayrshire	8,478	3·73	316·30	Maxwell of Gleneira
254	Iris of Tregorland ..	J. F. Tuckey ..	,,	8,003	3·95	315·96	Bonnie Earl of Gowrie Park
255	Jessie 37th of Melrose ..	W. Woodmason ..	Jersey	5,498	5·73	315·06	Golden Fern's Viscount
256	Countess of Hillcrest ..	W. A. Francis ..	Ayrshire	6,704	4·69	314·47	Victor of Warrook
257	Twylish's Blanch of Lurneah	J. Charlton ..	Jersey	5,977	5·23	312·89	Blanchette's Fox
258	Jessie 11th of Ferntree Vale	J. Phillips ..	,,	7,752	4·03	312·29	Starbright Renard
259	Snow Queen of Willis Vale	G. Dwyer ..	,,	6,344	4·93	312·27	Niphetos Twylish of Willis Vale
260	Bunty 3rd of Carracoorte	W. Henderson ..	Ayrshire	6,540	4·77	312·04	Lord Dudley of Gowrie Park
261	Myrtle of Sparrovale ..	Geelong Harbour Trust	,,	6,842	4·56	311·84	Scottish Chief of Sparrovale
262	Eleanor of Glengowrie ..	A. T. W. Facey ..	,,	7,996	3·90	311·62	Liberty of Lady Bank
263	Naldera of Woodside ..	Miss S. L. Robinson	Jersey	6,009	5·18	311·50	Goldfinder
264	Olive Branch of Banyule	D. E. Cook ..	,,	6,267	4·94	309·63	Audrey's Lord Twylish
265	Victoria Coronation ..	Department of Agriculture, Werribee	Red Poll	7,137	4·33	309·36	Vice Regal
266	Countess Togo ..	J. Plattfuss ..	Friesian	10,644	2·91	309·25	Count Togo
267	Bunty 2nd of Carracoorte	W. Henderson ..	Ayrshire	7,079	4·36	308·54	Lord Dudley of Gowrie Park
268	Gaiety Girl 12th of Melrose	L. W. Thompson ..	Jersey	5,848	5·27	308·42	Golden Fern's Viscount
269	Cinderella 3rd of Wattle Vale	D. E. Cook ..	,,	6,536	4·76	307·81	Auburn of Kelburn
270	Lassie 5th of Clover Flat	J. E. Handbury and Sons	,,	6,192	4·96	307·21	Curious King
271	Peggy of Woolamai Park	G. Kent	Ayrshire	6,938	4·43	307·01	Prince of Mapleton
272	Gladys of Sparrovale ..	Geelong Harbour Trust	,,	7,016	4·37	306·94	Scottish King of Gowrie Park
273	St. Alban's Pearl ..	H. Allez	Friesian	9,396	3·27	306·85	St. Alban's May King
274	Sweet Pansy's Poppy of Welbourne	G. Rowe ..	Jersey	4,907	6·24	306·32	Beauty's Prince of Somerville
275	Rosebloom 7th of Carracoorte	W. Henderson ..	Ayrshire	6,890	4·45	306·30	Problem of Willowvale
276	Bluebell of Jerseyholm ..	T. Harvey ..	Jersey	5,322	5·76	306·29	Venture's Hero
277	Lady Lene of Elouera ..	Aveley Stud Farm	,,	6,457	4·74	305·90	Lord Richmond
278	Stalk 2nd of Balvormie	D. Harker ..	Ayrshire	6,779	4·50	305·37	Molly's Marshall of Balvormie
279	Gaiety Girl 11th of Melrose	Simpson and Son ..	Jersey	5,204	5·85	304·63	Latest Style of Melrose
280	Lily 2nd of Jersey Vale	Mrs. L. Orchard ..	,,	5,075	6·00	304·49	Choice 2nd of Tarnpirr
281	Preston Frolic ..	A. Balsillie ..	,,	6,871	4·42	303·94	Golden Twylish
282	Kyora Anthem ..	Miss S. L. Robinson	,,	5,352	5·66	303·08	Brown Duke of Glen Iris
283	Wistaria of Longerenong	Longerenong Agricultural College	Ayrshire	6,279	4·82	302·92	Life Buoy of Gowrie Park
284	Linda of Tuerong ..	G. Esler	Jersey	7,125	4·25	302·48	Bonny Lad of King's Vale
285	Snowdrop of Jersey Vale	Mrs. L. Orchard ..	,,	5,607	5·38	301·76	Choice 2nd of Tarnpirr
286	Chevy 15th of Melrose	W. Woodmason ..	,,	6,148	4·90	301·28	Jessie 13th's Count
287	Fox's Twylish Blanche ..	J. Charlton ..	,,	6,444	4·66	300·22	Blanchette's Fox
288	Rosalind of Sparrovale ..	Geelong Harbour Trust	Ayrshire	6,321	4·72	298·31	The Laird of Sparrovale
289	Winnie of Ben Kell ..	D. Ralston	,,	7,787	3·82	297·71	Marvel of Willowvale
290	Dainty of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,678	4·44	296·41	Havelock of Darbalara
291	Fairy Queen of Colac ..	N. C. De La Rue ..	Jersey	6,279	4·72	296·06	Twylish's Queen Fox
292	Kirsty 13th of Jerseyholm	Quigley and Bennett	,,	6,152	4·80	295·18	Venture's Hero
293	Flowing Vale Mignette ..	Department of Agriculture, Werribee	Red Poll	6,695	4·39	293·77	Bellum Victor
294	Countess of Holly Green	H. L. Webb ..	Ayrshire	7,112	4·13	293·40	Headlight of Holly Green
295	Mandolin of Warenda ..	A. E. Ellis ..	Jersey	5,384	5·45	293·26	Jazz of Warenda
296	Isla of Ben Kell ..	Salesian College ..	Ayrshire	6,915	4·20	290·61	Marvel of Willowvale
297	Rosebud of Hillcrest ..	W. A. Francis ..	,,	6,756	4·20	290·24	Laddie of Hillcrest
298	Lady Grey 22nd of St. Albans	T. R. Findlay ..	Jersey	5,729	5·04	288·75	Brighton King 8th
299	Myrtle of Retreat ..	Salesian College ..	Ayrshire	6,539	4·37	288·60	Commonwealth of Retreat
300	Brownie 4th of Carracoorte	W. Henderson ..	,,	7,106	4·05	287·44	Dahlia's Duke of Gleneira
301	Dolichos of Longerenong	Longerenong Agricultural College	Ayrshire	7,035	4·08	287·08	Gay Lad of Sparrovale
302	Coral 4th of Carracoorte	W. Henderson ..	,,	6,728	4·25	286·13	Lord Dudley of Gowrie Park
303	Thora of Jersey Meadows	P. C. McHutchinson	Jersey	4,911	5·82	285·88	Emperor 2nd of Jerseyholm
304	Daisy 12th of Melrose ..	J. E. Handbury and Sons	,,	4,914	5·80	285·08	Golden Fern's Viscount

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
305	Lantana 2nd of Springhurst	F. Raggatt ..	Jersey	5,387	5·28	284·69	Kerensky of Springhurst
306	Velveteen 6th of Banyule	H. V. MacLeod ..	,,	5,698	4·99	284·49	Milkmaid's Chief of Banyule
307	Lily of Jersey Vale ..	Mrs. L. Orchard ..	,,	5,193	5·47	283·97	Golden Twylish
308	Fuchsia of Clematis ..	H. Cowling ..	,,	5,267	5·38	283·16	Nightshade of Melrose
309	Rarity of Meadowvale ..	W. H. Atherton ..	,,	4,824	5·87	283·05	Handsome Lad of Woodville
310	Linda 53rd of King's Vale	J. Anderson, junr. ..	,,	5,888	4·80	282·74	Jessemia's Imperial 5th of King's Vale
311	Retford Lady Aldan ..	W. Woodmason ..	,,	5,367	5·26	282·33	Justice Gamboge
312	Sunlight of Roseleigh ..	G. Gange ..	Ayrshire	7,611	3·70	281·37	Fuchsia's Frederick of Warrook
313	Minnie 4th of Carracoorte	W. Henderson ..	,,	6,045	4·65	280·82	Lord Dudley of Gowri Park
314	Bud of Woolamai Park	G. Kent ..	,,	5,955	4·71	280·25	Montrose of Ayrshire Bank
315	Lotus 2nd of Banyule ..	E. H. Howlett ..	Jersey	4,944	5·64	278·67	Milkmaid's Chief
316	Buttercup 12th of Ferntree Vale	Gibson Bros. ..	,,	5,228	5·26	275·23	Starbright Renard
317	Trissie of Wethersdane..	Telford Bros. ..	Ayrshire	6,957	3·95	275·06	His Majesty of Wethersdane
318	Favourite 4th Blanche of Lumeah	J. Charlton ..	Jersey	6,473	4·23	274·08	Blanchette's Fox
319	Rosebud of Fernhill ..	T. Knowles ..	Ayrshire	6,504	4·21	273·60	Tresbon of Oakbank
320	Pearl 3rd of Carracoorte	W. Henderson ..	,,	6,761	4·03	272·78	Bruce of Warrook
321	Fancy of Roseneath ..	R. Goodman ..	,,	6,846	3·98	272·77	Selkirk of Roseneath
322	Victoria Calumet ..	Walsh Bros. ..	Red Poll	6,098	4·44	270·98	Belligerent
323	Cashmere's Queen of Roseneath	R. Goodman ..	Ayrshire	6,836	3·95	269·96	Ikon of Glen Alvie
324	Sunset Star of Dunalister	Leongatha High School	Jersey	5,550	4·83	267·84	Lord Brighton of Dunalister
325	Springfield White Posch	J. T. Tweddle ..	Friesian	7,344	3·64	267·12	Rosevale Inka Sylvia Posch
326	Winnie of Welbourne ..	G. Rowe ..	Jersey	4,915	5·43	266·93	Beauty's Prince of Somerville
327	Maisie of Sparrovale ..	Geelong Harbour Trust	Ayrshire	6,458	4·11	265·59	Stuart of Gowrie Park
328	Starette of Fernhill ..	Longerenong Agricultural College	,,	6,491	4·09	265·16	Glen Elgin's Ian
329	Tragedy 3rd of Linden..	Aveley Stud Farm	Jersey	5,595	4·73	264·76	Annette's Chief of Linden
330	Dot of Franklin Park ..	W. A. Sandles ..	,,	5,616	4·71	264·44	Neat Lad of Kirkhill
331	Leonie II. of Clarendon Eyre	Simpson and Son ..	,,	5,559	4·75	263·89	Lotina's Larkspur's Twylish
332	Dunalister Mannikin's Sand Daisy	J. A. Huffer ..	,,	5,085	5·17	262·67	Mannikin of Glen Iris
333	Foliage of Golden Vein	M. A. Poole ..	Ayrshire	6,425	4·09	262·52	Sergeant of Golden Vein
334	Springfield No. 7 ..	H. Allez ..	Friesian	6,971	3·75	261·32	Rosevale Inka Sylvia Posch
335	Canary II. of Goulburn	P. J. Ducat ..	Jersey	5,130	5·09	261·32	Kyora Defender's Clarabelle Noble
336	Duchess of Welbourne	G. Rowe ..	,,	5,388	4·82	259·58	Beauty's Prince of Somerville
337	Mercy of Oakbank ..	Longerenong Agricultural College	Ayrshire	5,985	4·33	259·07	Lodestar of Oakbank
338	Scotswood Daphne Brown	A. H. Schier ..	,,	6,291	4·12	258·91	Warwick of Sparrovale
339	Palm of Glencira ..	T. Knowles ..	Ayrshire	5,952	4·34	258·28	Harry Lauder of Lady Bank
340	Olive Branch of Banyule	D. E. Cook ..	Jersey	4,916	5·23	257·00	Audrey's Lord Twylish
341	Marguerita of Drayton	R. P. H. Young ..	Ayrshire	6,208	4·14	256·73	Eurobin of Oakbank
342	Leila of Hillcrest ..	W. A. Francis ..	,,	6,332	4·05	256·67	Victor of Warrook
343	Myrtle of Retreat ..	Salesian College ..	,,	6,108	4·20	256·66	Commonwealth of Retreat
344	Isobelle of Pine Grove ..	Pinkerton Bros. ..	,,	6,710	3·80	255·15	Rex of Hollygreen
345	Myrtle II. of Pine Grove	A. H. Schier ..	,,	6,354	4·01	254·93	Glen Keith of Pine Grove
346	Joy of Hillcrest ..	G. Rowe ..	Jersey	4,704	5·36	252·35	Bell Boy of Hillcrest
347	Rosebud of Hillcrest ..	W. A. Francis ..	Ayrshire	6,140	4·07	250·12	Laddie of Hillcrest
348	Choice of Hillcrest ..	W. A. Francis ..	,,	5,268	4·74	249·74	Victor of Warrook
349	Millie 2nd of Retreat ..	Salesian College ..	,,	6,095	4·10	249·72	Commonwealth of Retreat
350	Mayflower 2nd of Carracoorte	W. Henderson ..	,,	5,850	4·25	248·74	Lord Dudley of Gowrie Park
351	Buttercup of Jersey Vale	Mrs. L. Orchard ..	Jersey	5,144	4·83	248·40	Choice 2nd of Tarnpirr
352	Nightingale 2nd of Raith	R. Goodman ..	Ayrshire	6,531	3·77	246·31	Duke of Melton Park
353	Elena of Springfield ..	W. A. Francis ..	,,	6,237	3·95	246·11	Donald of Wethersdane
354	Sweet Pansy 5th of Melrose	G. Rowe ..	Jersey	4,763	5·15	245·32	Handsome Boy 5th of Melrose
355	Scotswood Jeanette ..	A. H. Schier ..	Ayrshire	6,450	3·78	243·94	Magnet of Inverleigh
356	Sunshine 4th of Brookfield	W. Parbury ..	Jersey	5,544	4·39	243·35	Creek of Brookfield
357	Floss of Roseneath ..	R. Goodman ..	Ayrshire	5,805	4·16	241·35	Fantarie of Willowvale
358	Bettsie of Inverleigh ..	A. H. Schier ..	,,	5,535	4·33	239·94	Warwick of Sparrovale
359	Mapleston Hero Cheekie	Pinkerton Bros. ..	,,	6,360	3·77	239·73	Hero of Rythdale
360	Queenie of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,510	3·68	239·59	Havelock of Darbalara
361	Melody of Holly Green..	H. L. Webb ..	Ayrshire	4,634	5·16	239·20	Headlight of Holly Green

MATURE COWS. (OVER 5 YEARS AT TIME OF CALVING.) 350 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
362	Daffodil's Dolly of Welbourne	G. Rowe ..	Jersey	4,956	4·82	238·93	Beauty's Prince of Somerville
363	Lady Virtue of Wilson House	A. H. Schier ..	Ayrshire	6,480	3·64	235·91	Ada's Douglas 2nd of Wilson House
364	Violet 3rd of Carracoorte	W. Henderson ..	,,	5,085	4·57	232·48	Problem of Willowvale
365	Lady Jazz of Lebanon	J. V. M. Wood ..	Jersey	4,106	5·65	232·07	Lord Richmond
366	St. Alban's Daffodil Mercena	H. Allez ..	Friesian	6,078	3·81	231·61	Michalmas King
367	Rose of Hillcrest ..	W A. Francis ..	Ayrshire	5,658	4·05	229·08	Victor of Warrook
368	Verbena 2nd of Brookfield	W. Parbury ..	Jersey	4,868	4·65	226·59	Rarity's Fawn Duke of Melrose
369	Princess Ida of Cloverfield	A. Schilpalius ..	,,	3,884	5·76	223·71	Glen Renard
370	Rose of Jersey Vale ..	Mrs. L. Orchard ..	,,	5,009	4·43	222·03	Golden Twylish
371	Daffodil of Jersey Vale	Mrs. L. Orchard ..	,,	4,367	5·01	218·76	Golden Twylish
372	Pearl of Claremont ..	M. A. Poole ..	Ayrshire	5,136	4·20	215·73	Amateur of Rosemond
373	Mill Brown Duchess ..	Miss S. L. Robinson	Jersey	4,283	5·03	215·60	Brown Duke of Glen Iris
374	Burnbank Dutch Princess	J. Tweddle ..	Friesian	5,101	4·16	212·29	Prince of Coralee
375	Greyacres Ada 2nd ..	M. A. Poole ..	Ayrshire	4,245	4·93	209·38	His Majesty of View Point
376	Linda of Medburn Grove	Salesian College ..	,,	5,370	3·90	209·34	Lord Harry of Medburn Grove
377	Morning Light of Clover Flat	A. C. Willis ..	Jersey	3,722	5·58	207·87	Bonnie Lad of King's Vale
378	Tulip of Jersey Vale ..	Mrs. L. Orchard ..	,,	4,305	4·83	208·07	Golden Twylish
379	Daisy Lauder of Gleneira	Mrs. M. A. Poole ..	Ayrshire	5,276	3·92	206·78	Harry Lauder of Ladybank
380	Fine Quality of Gleneira	A. H. Schier ..	,,	4,157	4·92	204·65	Kia Ora of Haydowns
381	Scotswood Belle ..	A. H. Schier ..	,,	5,456	3·74	203·93	Comrade of Fassefern
382	Brownie 3rd of Carracoorte	W. Henderson ..	,,	4,935	4·11	203·07	Lord Dudley of Gowrie Park
383	St. Alban's Helen ..	W. A. Regnier ..	Friesian	6,134	3·28	201·16	Burdett's Prince
384	Ashlynn 44 ..	Burnbank Cheese Company	,,	6,375	3·15	201·02	Black and White King of Ashlynn
385	Dot of Jersey Vale ..	Mrs. L. Orchard ..	Jersey	3,600	5·55	199·73	Choice 2nd of Tarnpirr
386	Pearl 3rd of Carracoorte	W. Henderson ..	Ayrshire	4,630	4·26	197·97	Bruce of Warrook
387	Flossie of Carracoorte ..	W. Henderson ..	,,	4,875	4·04	197·03	Bruin of Gleneira
388	Lucy 4th of Carracoorte	W. Henderson ..	,,	4,203	4·67	196·28	Lord Dudley of Gowrie Park
389	Ruby of Dunachton ..	W. Adams ..	,,	4,875	3·83	186·63	Juan of Oakbank
390	Virtue of Ayr Brae ..	Salesian College ..	,,	4,005	4·50	180·23	Kittie of Oakbank
391	Grace of Roseleigh ..	Salesian College ..	,,	4,455	3·86	172·09	Burleigh of Gowrie Park
392	Sunshade of Ellerslie ..	Longerenong Agricultural College	,,	4,335	3·95	171·36	Leila's Jamie of Ellerslie
393	Sweet Lass of Clover Flat	A. C. Willis ..	Jersey	3,092	5·49	169·82	Bonnie Lad of King's Vale
394	Boronia 2nd of Pine Grove	A. H. Schier ..	Ayrshire	3,840	4·25	163·07	Glen Keith of Pine Grove
395	Burnbank Queen Patch	J. T. Tweddle ..	Friesian	4,763	3·42	162·85	Rock Patch
396	Scotswood Reason ..	A. H. Schier ..	Ayrshire	4,185	3·78	158·37	Roderick of Inverleigh
397	Fay of Banyule ..	A. H. Schier ..	,,	4,275	3·65	155·96	Rational of Oakbank
398	Pansy of Graham's Vale	Mrs. L. Orchard ..	Jersey	3,423	4·55	155·78	Golden Twylish
399	Minerva's Balm 3rd of Carracoorte	W. Henderson ..	Ayrshire	3,795	4·02	152·62	Victor 2nd of Carracoorte
400	Scotswood Adeline ..	A. H. Schier ..	,,	3,195	3·87	123·51	Bellboy of Oakbank
401	Scotswood Mignonette	A. H. Schier ..	,,	2,835	3·84	108·95	Bellboy of Oakbank

SENIOR 4 YEAR OLD. (Between 4½ and 5 Years.) 325 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Halecote Opera Girl ..	Smith and Sons ..	Friesian	22,351	3·41	761·64	Victoria Songboy
2	Victoria Freemartin ..	Department of Agriculture, Werribee	,,	17,478	3·38	590·32	Victoria Songboy
3	Blossom 2nd of Belgonia	P. J. Maloney ..	Jersey	12,317	4·53	557·70	Hedge of Banyule
4	Madrigal of Warenda ..	T. Mesley ..	,,	9,372	5·85	548·20	Kewpie of Warenda
5	Jubilee Thyme ..	G. Esler ..	,,	8,694	5·86	509·21	Goddington Winks 6th
6	Glen Elgin's Clarise ..	J. Plattfuss ..	Friesian	13,125	3·72	488·08	Victoria Double Oak De Kol
7	Soprano 4th of Banyule	C. G. Lyon ..	Jersey	9,141	5·28	482·91	Molly's Twylish of Banyule
8	Peggy of Ben Kell ..	D. Ralston ..	Ayrshire	8,974	5·36	481·25	Ruff of Oakbank
9	Eileen 2nd of Clarendon Eyre	A. J. Mapleson ..	Jersey	8,145	5·74	467·88	Lotina Larkspur's Twylish

SENIOR 4 YEAR OLD. (BETWEEN 4½ AND 5 YEARS.) 325 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
10	Stumpy of Belgonia ..	P. J. Maloney ..	Jersey	8,693	5·37	466·71	Hedge of Banyule
11	Silvermine of Strathbow	H. V. MacLeod ..	,,	7,650	6·09	466·23	Golden Mac of Strathbow
12	Garenne of Brucevale ..	F. Trevaskis ..	,,	9,005	5·13	461·97	Discord of Warenda
13	Victoria Bright Eye ..	Department of Agriculture, Werribee	Red Poll	7,856	5·68	446·20	Vice Regal
14	Daffodil 2nd of Goronga Farm	Miss H. E. Raleigh	Jersey	8,070	5·46	440·99	Trumps of Banyule
15	Jessemia 16th of King's Vale	S. K. Webb ..	,,	7,528	5·84	439·89	Thorn of Banyule
16	Cello of Warenda ..	T. Mesley ..	,,	7,130	6·07	432·59	Choirmaster of Warenda
17	Buttercup of the Watties	N. H. Enders ..	,,	7,714	5·58	430·20	Duke of Bonshaw
18	Ashby Queenie 3rd ..	Dickinson Bros. ..	Friesian	11,182	3·79	424·08	Bolobek General
19	Harmony of Leura ..	W. A. Axford ..	Jersey	7,479	5·65	422·28	Discord of Warenda
20	Nightshade 2nd of Springhurst	J. D. Read ..	,,	6,885	6·06	417·05	Arcadia's Choice of Tarnpirr
21	Noorat Sunshine ..	Mrs. A. Black ..	,,	8,487	4·89	414·94	Best Choice of Tarnpirr
22	House Maid of Welbourne	J. A. Huffer ..	,,	9,149	4·51	413·05	Beauty's Prince of Somerville
23	Laburnum of Springhurst	J. D. Read ..	,,	7,415	5·56	412·50	Alloy of Banyule
24	Lily 2nd of the Valley ..	Mrs. L. Lowing ..	,,	8,764	4·66	408·52	Foxglove of the Valley
25	Rosebud of Roseleigh ..	G. Gange ..	Ayrshire	9,528	4·27	406·71	Fuchsia's Fredrick of Warrook
26	Fairy Girl of Rockbank	C. Wade ..	Jersey	8,276	4·86	402·54	Fairy Boy of St. Albans
27	Shaster Daisy of Springhurst	J. D. Read ..	,,	7,674	5·17	396·87	Alloy of Banyule
28	Cream Star of Wooraylı	Leongatha High School	,,	6,558	6·04	396·13	Cream Duke of Glen Iris
29	Music of Brucevale ..	T. M. Noble ..	,,	7,037	5·57	391·80	Kewpie of Warenda
30	Burnbank Muller Patch	J. T. Tweddle ..	Friesian	10,785	3·61	389·76	Rock Patch
31	Ashby Patricia Pauline	Dickinson Bros. ..	,,	11,588	3·36	389·36	St. Alban's May Queen Netherland Prince
32	Jenny Lind 18th of Melrose	W. Woodmason ..	Jersey	8,216	4·70	386·19	Golden Fern's Viscount
33	Sistine of Banyule ..	E. H. Howlett ..	,,	7,140	5·40	385·75	Milkmaid's Chief of Banyule
34	Laurel of Parkview ..	J. McDougall ..	,,	6,684	5·73	382·90	Misfortune of Kelburn
35	Gay Lass of Clover Flat	A. C. Willis ..	,,	7,782	4·83	375·94	Bonnie Lad of King's Vale
36	Ashby Phyllis 5th ..	Dickinson Bros. ..	Friesian	10,719	3·45	369·67	Bolobek General
37	Lady Grey 25th of St. Albans	J. J. Baker ..	Jersey	7,035	5·19	365·11	Brighton King 8th
38	Daisy 3rd of Brookfield	W. Parbury ..	,,	6,786	5·30	359·92	Daisy's Morocco Fox of Werribee
39	Faith of Peri ..	J. Phillips ..	,,	7,529	4·69	352·94	Bosun of Meadowvale
40	Victoria Fez ..	Department of Agriculture, Werribee	Red Poll	9,600	3·63	348·84	Vice Regal
41	Duchess of Glen Leigh	J. E. Chadderton ..	Jersey	5,995	5·77	346·02	Master Moll of Banyule
42	Gay Lass of Willow Park	W. K. Atkinson ..	Milking Shorthorn	8,373	4·13	345·88	Havelock of Darbalara
43	Alice of Holly Green ..	H. L. Webb ..	Ayrshire	8,028	4·28	343·88	Head Light of Holly Green
44	Victoria Bellbird ..	Department of Agriculture, Werribee	Red Poll	6,567	5·14	337·84	Belligerent
45	Aileen of Roseleigh ..	G. Gange ..	Ayrshire	8,285	4·06	336·64	Marquis of Roseleigh
46	Pearl of Holbrook ..	A. Ellis	Jersey	6,280	5·27	331·22	Auburn of Kelburn
47	Priscilla of Glengowrie	G. Gange ..	Ayrshire	7,466	4·43	330·51	Liberty of Lady Bank
48	Rose of Franklin Park..	W. A. Sandles ..	Jersey	5,720	5·71	326·43	Neat Lad of Kirkhall
49	Victoria Coruscate ..	Department of Agriculture, Werribee	Friesian	7,596	4·28	325·25	Victoria Jo Patch
50	Handsome Girl 12th of Melrose	W. Woodmason ..	Jersey	5,174	6·23	322·35	Golden Fern's Viscount
51	Venus of Banyule ..	E. H. Howlett ..	,,	6,439	5·00	321·78	M.A.T. of Banyule
52	Fulham Maybelle 2nd ..	Cockbill Bros. ..	Ayrshire	6,507	4·90	319·12	The Laird of Sparrovale
53	Filpail 12th of Carracoorte	W. Henderson ..	,,	7,002	4·52	316·82	Lena's Problem of Carracoorte
54	Laura of Devon Park ..	Simpson and Son ..	Jersey	5,424	5·64	305·98	Golden Fern's Viscount
55	Verbena of Melwood ..	E. Hall	,,	5,892	5·16	304·05	Laddie of Belgonia
56	May Queen 2nd's Grand Daughter	H. Allez	Friesian	7,507	4·05	303·72	Westmere Prince Mercedes
57	Victoria Stripe.. ..	Department of Agriculture, Werribee	Red Poll	7,392	4·01	296·25	Vice Regal
58	Lady Kendal of Gleneira	W. Henderson ..	Ayrshire	6,996	4·21	294·85	Challock Field Marshall
59	Dora Bell of Waratta ..	Wangaratta High School	Jersey	5,022	5·79	290·69	Haigh of Springhurst
60	Verbena 7th of Brookfield	W. Parbury ..	,,	6,267	4·48	281·04	Daisy's Morocco Fox of Werribee
61	Peerless of Devon Park	Simpson and Son ..	,,	4,853	5·78	280·60	Golden Fern's Viscount

SENIOR 4 YEAR OLD. (BETWEEN 4½ AND 5 YEARS.) 325 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
62	Fulham Beauty ..	Cockbill Bros. ..	Ayrshire	6,661	3·99	265·62	His Majesty of Wethersdane
63	Rockbank Tulip 3rd ..	H. Alicz ..	Friesian	7,523	3·48	261·80	Bolobek Amos
64	Kirsty 14th of Jerseyholm	Quigley and Bennett	Jersey	4,353	5·80	252·31	New Alliance of Jerseyholm
65	Myra of Holly Green ..	H. L. Webb ..	Ayrshire	5,891	4·25	250·13	Headlight of Holly Green
66	Hope of Springburn Park	W. Fink	,,	6,279	3·98	249·96	Ruralist of Oakbank
67	Rosebud 4th of Brookfield	W. Parbury ..	Jersey	5,334	4·57	243·96	Daisy's Morocco Fox of Werribee
68	Edie Bell of Waratta ..	Wangaratta High School	,,	4,071	5·94	242·00	Jubilee Life Light
69	Scotswood Myra ..	A. H. Schier ..	Ayrshire	5,589	4·24	236·72	Comrade of Fassifern
70	Alice of Glen Locksley	G. E. Harker ..	,,	6,960	3·39	235·60	Majesty of Fernhill
71	Crissy 4th of Hillcrest ..	Mrs. M. and W. A. Francis	,,	5,099	4·60	234·75	Victor of Warrook
72	Donna of Somerville ..	F. Harrison ..	Jersey	5,561	4·13	229·62	Cream Boy of Somerville
73	Helena 4th of Carracoorte	W. Henderson ..	Ayrshire	5,039	4·38	220·76	Lena's Fritz of Carracoorte
74	Clare of Glen Locksley	G. E. Harker ..	,,	5,447	4·01	218·47	Majesty of Fernhill
75	Kitten of Tregorland ..	J. F. Tuckey ..	,,	5,160	3·96	216·41	Bonnie Earl of Gowrie Park
76	Claremont Pride 2nd ..	Mrs. M. A. Poole ..	,,	5,039	4·29	216·30	Leila's Jamie of Ellerslie
77	Aspect of Springburn Park	W. Fink	,,	5,748	3·64	209·34	Ruralist of Oakbank
78	Doreen of Jersey Vale ..	Mrs. L. Orchard ..	Jersey	3,985	4·72	187·17	Choice 2nd of Tarnpirr
79	Cloverleaf of Springfield	J. G. Lobb ..	Ayrshire	4,095	4·27	174·87	Medium of Oakbank
80	Lucy 5th of Carracoorte	W. Henderson ..	,,	3,315	4·25	141·03	Lena's Problem of Carracoorte

JUNIOR 4 YEAR OLD. (Between 4 and 4½ Years.) 300 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Yorkshire Rosevale Ideal	J. Plattfuss ..	Friesian	17,513	3·61	631·54	Dominion Oakwood
2	Lady of Lucknow ..	N. H. Enders ..	Jersey	10,809	4·95	534·61	Kaffir Thorn of Banyule
3	Bolobek Antonia ..	O. J. Syme ..	Friesian	14,727	3·39	499·80	Colontha Van Wild Rose
4	Cora of Linga Longa ..	F. Austin ..	Jersey	8,162	6·01	490·60	Dawn of Warenda
5	Bunty 2nd of Coliban ..	A. A. Broad ..	,,	9,696	4·98	482·53	Carrie's Boy of Coliban
6	Silvermine 29th of Banyule	C. G. Lyon ..	,,	9,611	5·02	482·41	Molly's Twylish of Banyule
7	Sea Shell of Hazeldale ..	A. J. Mapleson ..	,,	7,947	6·03	479·57	Dinkum of Banyule
8	Carrie 3rd of Queen's Vale	W. H. Hurrey ..	,,	7,195	6·45	464·10	Linda's Record 7th of King's Vale
9	Beatrice of Merivale ..	C. Wade	,,	8,467	5·41	457·95	Twylish Queen's Fox
10	Princess 4th of Grangelea	A. A. Broad ..	,,	8,396	5·40	453·68	Golden Twylish
11	Maitland Petal 2nd of Elouera	J. Clyne	,,	9,083	4·89	444·48	Double Twylish of Elouera
12	Noble's Buttercup of Avalon	F. Austin ..	,,	7,416	5·93	439·70	Noble of Linden
13	Science of Comeley Banks	P. J. Maloney ..	,,	8,810	4·87	429·08	Escape's Lad of Comeley Bank
14	Cora 2nd of Elouera ..	J. Clyne	,,	7,500	5·67	424·93	Double Twylish of Elouera
15	Sparkle 7th of Jerseyholm	T. Harvey ..	,,	6,051	6·92	418·89	New Alliance of Jerseyholm
16	Starfinch 7th of Banyule	E. H. Howlett ..	,,	6,872	6·02	414·03	Milkmaid's Chief of Banyule
17	Laura 15th of Melrose ..	W. Woodmason ..	,,	6,734	6·15	413·90	Jessie 13th's Count of Melrose
18	Ragtime 2nd of Warenda	T. Mesley ..	,,	6,311	6·36	401·18	Kinnor of Banyule
19	Starfinch 8th of Banyule	C. G. Lyon ..	,,	7,607	5·25	399·68	Wotton Airman
20	Dame of Bellaire ..	W. H. Hurrey ..	,,	8,919	4·44	396·01	Eureka of Banyule
21	Dainty of Grangelea ..	A. A. Broad ..	Jersey	7,392	5·31	392·36	Golden Twylish
22	St. Alban's Queen Lady Mary	I. Padgett ..	Friesian	11,982	3·25	389·22	Rosevale Korndyke Colantha
23	Jessamine 2nd of Brookfield	W. Parbury ..	Jersey	7,226	5·29	382·40	Werribee Wyandotte's Star
24	Silvermine 27th of Banyule	C. G. Lyon ..	,,	6,657	5·73	381·22	M.A.T. of Banyule

JUNIOR 4 YEAR OLD. (BETWEEN 4 AND 4½ YEARS.) 300 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
25	Gaiety Girl 15th of Melrose	W. Woodmason ..	Jersey	6,090	6·10	371·35	Jessie 13th's Count of Melrose
26	Patricia of Whitley ..	G. Esler	,,	7,313	5·08	371·20	Prince of Belgonia
27	Kyora Starbright ..	M. Lyons ..	,,	7,373	5·03	371·08	Kyora May's Duke
28	Betty of Sunnyford ..	J. V. M. Wood ..	,,	6,209	5·95	369·52	Sparkle's Chief
29	My Hope of Swansea ..	F. P. Stephens ..	,,	7,106	5·15	366·31	Tiny's Treasure
30	Victoria Songbell ..	Department of Agriculture, Werribee	Friesian	11,057	3·27	362·04	Victoria Songboy
31	Victoria Atonement ..	Department of Agriculture, Werribee	Red Poll	8,287	4·33	358·93	Bit-o-bacca
32	Silver Queen of Leura ..	W. Axford ..	Jersey	7,250	4·91	356·22	Grant of Melrose
33	Fairy Queen of Rockbank	C. Wade	,,	7,227	4·93	356·12	Fairy Boy of St. Albans
34	Graceful of Wattle Vale	D. E. Cook ..	,,	5,928	5·87	348·20	Duke of Melrose
35	Daphne of Hyde Park ..	Telford Bros. ..	Ayrshire	7,263	4·78	346·97	Elsdon of Willow Vale
36	Garenne 5th of Warenda	T. Mesley ..	Jersey	5,025	6·88	345·53	Kinnor of Banyule
37	Victoria Calumet ..	Department of Agriculture, Werribee	Red Poll	7,280	4·74	344·74	Belligerent
38	Fulham Valetta ..	Cockbill Bros. ..	Ayrshire	7,280	4·73	344·01	Rocket of Springfield
39	Starbright of Aveley ..	Aveley Stud Farm Pty. Ltd.	Jersey	6,100	5·58	340·14	Werribee Fancy Butter King
40	Twilight of Hazeldale ..	A. J. Mapleson ..	,,	6,840	4·96	339·06	Jessemia's Imperial 4th of King's Vale
41	Greenvale Tot 2nd ..	J. Plattfuss ..	Friesian	9,577	3·49	334·50	Lydholme Segis Paxton
42	Posy of Ben Kell ..	R. Ralston ..	Ayrshire	8,117	4·11	333·43	Girvan of Oakbank
43	Lena of River Glen ..	N. R. Gange ..	,,	7,739	4·30	332·78	Lena's Problem of Carracoorte
44	Dookie Sapphire ..	Dookie Agricultural College	,,	7,334	4·49	329·59	Wallace of Gowrie Park
45	Daphne of Lumeah ..	J. Charlton ..	Jersey	5,692	5·71	325·00	Jewel's Boy of St. Albans
46	Sunshade of Glengowrie	A. T. N. Facey ..	Ayrshire	7,080	4·54	321·31	Liberty of Lady Bank
47	Silvermine 28th of Banyule	C. G. Lyon ..	Jersey	6,143	5·22	320·54	Moleskin Chief of Banyule
48	Lady Forma of Farringdon	J. V. M. Wood ..	,,	5,811	5·51	320·06	Maitland's Petal's Pride of Elouera
49	Carnation of Colac ..	N. C. De La Rue ..	,,	6,441	4·91	316·29	Golden Twylish of Colac
50	Rosalind 6th of Brookfield	W. Parbury ..	,,	5,726	5·52	315·82	Daisy's Morocco Fox of Werribee
51	Baromi Belle	W. A. Regnier ..	Friesian	6,435	4·88	314·13	Bolobek Mayne
52	Banksia of Longerenong	Longerenong Agricultural College	Ayrshire	7,224	4·34	313·34	Life Buoy of Gowrie Park
53	Poppy of Jersey Vale ..	Mrs. L. Orchard ..	Jersey	6,611	4·71	311·43	Choice 2nd of Tarnpirr
54	Bolobek Sylvia Eco ..	O. J. Syme ..	Friesian	9,159	3·38	309·65	Alcartra King Sylvia
55	Virginia 2nd of Springhurst	H. V. MacLeod ..	Jersey	5,373	5·74	308·44	Alloy of Banyule
56	Victoria Velvicene	Department of Agriculture, Werribee	Red Poll	6,558	4·70	308·10	Vice Regal
57	Comet of Willow Park	W. K. Atkinson ..	Milking Shorthorn	7,178	4·29	308·07	Stratagem of Willow Park
58	Beauty of Ballara ..	F. Trevaskis ..	Jersey	6,314	4·86	306·96	Hedge of Banyule
59	Gleneira Hazel 2nd ..	Pinkerton Bros. ..	Ayrshire	6,308	4·84	305·17	A.1 of Gleneira
60	Aletta of Roselcigh ..	G. Gange ..	,,	7,235	4·17	301·92	Fuchsia's Fredrick of Warrook
61	Rosebud 5th of Brookfield	W. Parbury ..	Jersey	6,051	4·98	301·13	Daisy's Morocco Fox of Werribee
62	Tulip 2nd of the Valley	Mrs. L. Lowing ..	,,	6,927	4·34	300·76	Foxglove of the Valley
63	Daisy Belle of Whare Koa	J. L. Gardener ..	,,	5,991	5·02	300·47	Retford Mourier Lad
64	Victoria Cutaway ..	Department of Agriculture, Werribee	Red Poll	6,906	4·34	299·82	Longford Major
65	Blossom of Woolamai Park	G. A. Kent ..	Ayrshire	6,332	4·68	296·60	Statesman of Gowrie Park
66	Lassie Fowler 2nd of Rosemont	R. H. Maher ..	Jersey	5,340	5·54	295·68	Cobber of Banyule
67	Betty 4th of Brookfield	W. Parbury ..	,,	5,279	5·53	291·81	Wyandotte Star of Werribee
68	Robena of Sparrovale ..	W. Henderson ..	Ayrshire	6,758	4·28	289·27	Alpha of Sparrovale
69	Kyora Twinkle 2nd ..	Miss S. L. Robinson	Jersey	5,274	5·48	288·76	Werribee Wyandotte's Fancy
70	Pearl of Jersey Vale ..	Mrs. L. Orchard ..	,,	5,619	5·07	285·09	Choice 2nd of Tarnpirr
71	Boree 2nd of Springhurst	J. D. Read ..	,,	5,430	5·20	282·53	Alloy of Banyule
72	Preston May Blossom ..	A. Balsillie ..	,,	5,501	5·13	282·29	Acacia King
73	Canary's Pride ..	A. E. Ellis ..	,,	5,037	5·60	281·88	Titus of Blackwood Grove
74	Peeress of Woolamai Park	G. A. Kent ..	Ayrshire	6,218	4·52	281·11	Statesman of Gowrie Park
75	Viola 7th of King's Vale	J. Anderson, junr. ..	Jersey	4,628	5·92	273·94	Jessemie's Imperial 5th of King's Vale
76	Lillian 4th of Carracoorte	W. Henderson ..	Ayrshire	6,591	4·10	270·18	Sebastian of Sparrovale
77	Masie of Cathcart ..	A. W. Gorman ..	,,	6,627	4·07	269·93	Major of Cathcart

JUNIOR 4 YEAR OLD. (BETWEEN 4 AND 4½ YEARS.) 300 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
78	Betty of Olive Dale ..	A. T. N. Facey ..	Ayrshire	6,973	3·81	265·54	Sunshine of Olivedale
79	Stella of Thirlmere ..	D. Harker ..	,,	6,600	3·98	262·44	Pride of Thirlmere
80	Golden Sand of Glen Valley	J. A. Huffer ..	Jersey	5,960	4·36	260·08	Dunalister Lotina's Bright Lad
81	Kith of Tregorland ..	J. Tuckey ..	Ayrshire	5,295	4·85	256·97	Bonnie Earl of Gowrie Park
82	Hyacinth of Jersey Vale	Mrs. L. Orchard ..	Jersey	4,511	5·66	255·50	Choice 2nd of Tarnpirr
83	Music of Wilgo ..	Simpson and Son ..	,,	5,894	4·27	251·46	Linnet's Twylish of Kameruka
84	Ida of Kelvin Grove ..	W. H. Onley ..	Ayrshire	7,607	3·30	251·41	Model of Seafield
85	Jessie's Daisy of Welbourne	G. Rowe ..	Jersey	5,630	4·42	249·06	Beauty's Prince of Somerville
86	Victoria Songbird ..	Department of Agriculture, Werribee	Red Poll	5,267	4·72	248·75	Longford Major
87	Scotswood Mabs ..	A. H. Schier ..	Ayrshire	5,805	4·19	243·51	Bellboy of Oakbank
88	Rosalie of Hill Crest ..	Mrs. M. and W. A. Francis	,,	5,090	4·76	242·21	Iron Duke of Gowrie Park
89	Scotswood Boronia ..	A. H. Schier ..	,,	4,715	5·13	241·91	Bellboy of Oakbank
90	Clover Hill Heather Bell	W. Regnier ..	Friesian	6,465	3·69	238·37	Bolobek Mayne
91	Scotswood Blanche ..	A. H. Schier ..	Ayrshire	5,583	4·22	235·76	Comrade of Fassifern
92	Anemone of Longerenong	Longerenong Agricultural College	,,	5,265	4·26	224·53	Life Buoy of Gowrie Park
93	Poppy of Thirlmere ..	D. Harker ..	,,	5,170	4·32	223·23	Arbitrator of Rythdale Park
94	Scotswood Madeira ..	A. H. Schier ..	,,	5,223	4·27	223·14	Bellboy of Oakbank
95	Bona Vista Marcia ..	Mrs. M. A. Poole ..	,,	5,414	4·08	220·81	Dunrobin of Glengowrie
96	Madge of Longerenong ..	Longerenong Agricultural College	,,	5,542	3·92	217·00	Life Buoy of Gowrie Park
97	Primrose of Longerenong	Longerenong Agricultural College	,,	5,096	4·24	216·10	Life Buoy of Gowrie Park
98	Dawtee of Brookfield ..	W. Parbury ..	Jersey	3,461	6·23	215·51	Daisy's Morocco Fox of Werribee
99	Kyora Velveteen 3rd ..	Miss S. L. Robinson	,,	3,860	5·56	214·59	Werribee Wyandotte's Fancy
100	Clover Hill Southern Maid	W. A. Regnier ..	Friesian	5,148	4·16	214·11	Bolobek Mayne
101	Scotswood Stylish ..	A. H. Schier ..	Ayrshire	4,758	4·49	213·74	Bellboy of Oakbank
102	Daphne of Wattle Vale	D. E. Cook ..	Jersey	4,817	4·41	212·41	Auburn of Kelburn
103	Burnbank Inka Sylvia Amethyst	Burnbank Cheese Company	Friesian	5,805	3·63	210·64	Rosevale Inka Burkeyje
104	Kitten of Tregorland ..	J. Tuckey ..	Ayrshire	4,980	4·11	204·74	Bonnie Earl of Gowrie Park
105	Cora of Jerseyvale ..	Mrs. L. Orchard ..	Jersey	4,002	5·08	203·15	Choice 2nd of Tarnpirr
106	Gladfield Duplicate Posch Queenie	H. Allez	Friesian	5,583	3·56	198·70	Bolobek Prince Duplicate Posch
107	Yarra Brae Flash ..	Department of Agriculture, Burnley	Jersey	2,940	6·76	198·60	Merman of Yarra Brae
108	Maid of Longerenong ..	Longerenong Agricultural College	Ayrshire	4,470	4·38	195·90	Buoy of Longerenong
109	Scotswood Model ..	A. H. Schier ..	,,	4,740	4·09	194·05	Bellboy of Oakbank
110	Betsy 13th of Carracoorte	W. Henderson ..	,,	4,401	4·37	192·49	Victor 3rd of Carracoorte
111	Irene of Tregorland ..	J. Tuckey ..	,,	3,900	4·73	184·30	Bonnie Earl of Gowrie Park
112	Starlight of Rosencath	R. Goodman ..	Ayrshire	4,275	4·24	181·05	Selkirk of Rythdale Park
113	Duchess 3rd of Willow Park	W. K. Atkinson ..	Milking Shorthorn	4,773	3·77	179·73	Count of Willow Park
114	Primula of Longerenong	Longerenong Agricultural College	Ayrshire	4,155	4·25	176·43	Life Buoy of Gowrie Park
115	Camelia of Roseneath ..	R. Goodman ..	,,	4,269	3·90	166·65	Selkirk of Rythdale Park

SENIOR 3 YEAR OLD. (Between 3½ and 4 Years.) 275 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Greenvale Juno Rose 2nd	J. Plattfuss ..	Friesian	14,906	3·65	544·00	Victoria Rose Patch
2	Garenne 2nd of Bruce vale	F. Trevaskis ..	Jersey	8,134	6·45	524·40	Werribee Madeira's King
3	Romany Lass of Belgonia	P. J. Maloney ..	,,	10,509	4·65	489·09	Prince of Belgonia
4	Werribee's Fancy Madeira	J. V. M. Wood ..	,,	8,493	5·72	485·61	Masterpiece
5	Ettie 8th of Banyule ..	C. G. Lyon ..	,,	8,225	5·79	476·12	Wotton Airman
6	Fairy of Teranah ..	C. W. Macauley ..	,,	7,850	5·83	457·49	Lily 6th's Son of Melrose
7	Daisy 3rd of Ballara ..	G. Esler ..	,,	9,665	4·63	447·76	Silver Boy of Wooringa

SENIOR 3 YEAR OLD (BETWEEN 3½ AND 4 YEARS.) 275 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
8	Comfrey of Springhurst	A. Evans ..	Jersey	8,835	4·89	431·99	Alloy of Banyule
9	Victoria Cutty Sulu ..	Department of Agriculture, Werribee	Red Poll	8,462	5·05	427·66	Vice Regal
10	Mercedes' Pansy of Avalon	F. Austin ..	Jersey	7,278	5·85	425·42	Mercedes' Chief of Glen Iris
11	Moss Rose of Willow Park	W. K. Atkinson ..	Milking Shorthorn	10,227	4·15	424·32	Havelock of Darbalara
12	Rosebud 2nd of Paradise	J. A. Huffer ..	Jersey	7,035	5·94	418·18	Werribee Northern Larkspur's Fancy
13	Ruby of Hazeldale ..	A. J. Mapleson ..	,,	7,877	5·16	406·52	Dinkum of Banyule
14	Burnbank Woodcrest Patch	Flack and Gamble	Friesian	10,820	3·73	403·53	Rock Patch
15	Rarity 3rd of Hazeldale	A. J. Mapleson ..	Jersey	7,586	5·31	402·94	Dinkum of Banyule
16	Greenvale Plebe Patch..	J. Plattfuss ..	Friesian	12,124	3·31	401·03	Victoria Rose Patch
17	Spring Daisy of Hill Crest	Gibson Bros. ..	Jersey	6,814	5·81	396·15	Relbia Nap
18	Viola 7th of Carracoorte	W. Henderson ..	Ayrshire	8,222	4·81	395·85	Maxwell of Sparrovale
19	Larkspur of Colac ..	N. C. De La Rue ..	Jersey	7,956	4·92	391·14	Viscount of Melrose
20	Trifle of Cloverfield ..	A. Joshua ..	,,	6,795	5·72	388·97	Rajah of Springhurst
21	Gazelle 3rd of Warenda	T. Mesley ..	,,	7,175	5·33	382·33	Kewple of Warenda
22	Bolobek Phoebe ..	O. J. Syme ..	Friesian	10,063	3·79	381·85	Bolebek Archie
23	Honey Bee of Rosehill	H. W. King ..	Jersey	6,635	5·69	377·52	Noble Boy 2nd of Rocklands
24	Venus of Banyule ..	E. H. Howlett ..	,,	6,960	5·40	375·96	M.A.T. of Banyule
25	Mercedes' Queen of Avalon	F. Austin ..	,,	6,428	5·81	373·74	Mercedes' Chief of Glen Iris
26	Mercedes' Buttercup 4th of Avalon	F. Austin ..	,,	7,784	4·76	370·76	Mercedes' Chief of Glen Iris
27	Graceful Duchess 36th of Melrose	W. Woodmason ..	,,	5,968	6·15	367·10	Jessie 13th's Count of Melrose
28	Startle of Woorayl ..	A. E. Ellis ..	,,	6,608	5·55	366·98	Cream Duke of Glen Iris
29	Myra 3rd of the Valley	Mrs. E. M. Lennie	,,	6,908	5·30	366·25	Sweet Fox of the Valley
30	Cathcart Bright ..	A. W. Gorman ..	Ayrshire	8,980	3·97	356·50	Poppy's Advance of Ben Kell
31	Lady Antimony of Narrawong	R. Purnell ..	Jersey	5,975	5·96	355·90	Garantie's Hero of St. Albans
32	Werribee's Fancy Starbright 2nd	D. Cameron and Sons	,,	8,405	4·18	351·46	Sir Fancy's Madeira of Werribee
33	Attraction of Leathorne	Gibson Bros. ..	,,	6,249	5·60	350·23	Annette's Chief 2nd of Linden
34	Nellie of Blackwood Grove	A. E. Ellis ..	,,	6,780	5·16	349·91	Whistler of Holbrook
35	Duchess 2nd of Glen Leigh	J. E. Chadderton ..	,,	6,378	5·46	348·36	Master Moll of Banyule
36	Cootamundra of Wattle Vale	D. E. Cook ..	,,	5,939	5·86	347·93	Duke of Melrose
37	Brunette 18th of King's Vale	J. Anderson, junr...	,,	5,849	5·95	347·90	Rosella's V.C. of King's Vale
38	Bolobek Diamond ..	O. J. Syme ..	Friesian	9,045	3·83	346·72	Matador Highland Segis
39	Charm of Blackwood Valley	J. Cook	Jersey	6,805	5·01	340·85	Woodruff Admiral
40	Miss Merlin of Merivale	C. Wade	,,	5,951	5·62	334·70	Merlin's Twylish of Colac
41	Perree's Capture of Leven Brae	T. R. Findlay ..	,,	7,019	4·74	333·01	Perree's Duke
42	Daphne of Jersey Vale..	Mrs. L. Orchard ..	,,	6,117	5·43	332·14	Choice 2nd of Tarnpirr
43	Orange Blossom of Lockiea	N. H. Enders ..	,,	5,256	6·27	329·30	Quality 6th's Son of Melrose
44	Lassie Fowler 13th of Melrose	W. Woodmason ..	,,	6,015	5·39	323·97	Golden Fern's Viscount
45	Dulcie Bell of Waratta..	Wangaratta High School	,,	5,480	5·84	320·30	Haigh of Springhurst
46	Luck of the Valley ..	Mrs. L. Lowing ..	,,	6,191	5·17	320·03	Foxglove of the Valley
47	Twin of the Valley ..	Mrs. L. Lowing ..	,,	6,002	5·32	319·10	Foxglove of the Valley
48	Bluebell of Farringdon..	J. V. M. Wood ..	,,	5,567	5·69	316·73	Maitland Petal's Bride of Elouera
49	Lady Golden 2nd of Bruce vale	F. Trevaskis ..	,,	5,442	5·81	316·02	Werribee Madeira's King
50	Astra of Woorayl ..	Leongatha High School	,,	5,620	5·60	314·51	Cream Duke of Glen Iris
51	Victoria Lean Patch ..	Department of Agriculture, Werribee	Friesian	8,172	3·74	306·04	Victoria Jo Patch
52	Victoria Velvet Crown	Department of Agriculture, Werribee	Red Poll	6,128	4·98	305·04	Vice Regal
53	Goldy 2nd of Strathbow	F. Raggatt ..	Jersey	5,109	5·96	304·45	Robert of Melrose
54	Dewdrop of Glen Cooee	A. Wallace ..	Ayrshire	7,419	4·10	304·22	Boshter of Oakbank
55	Sparrovale Rowena ..	W. Henderson ..	,,	7,304	4·16	303·98	Alpha of Sparrovale

SENIOR 3 YEAR OLD. (BETWEEN 3½ AND 4 YEARS.) 275 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
56	Iris of Jersey Vale ..	Mrs. L. Orchard ..	Jersey	5,922	5·11	302·87	Choice 2nd of Tarnpirr
57	Pardon I. of Ben Kell ..	D. Ralston ..	Ayrshire	6,972	4·34	302·69	Ruff of Oakbank
58	Victoria Basra ..	Department of Agriculture, Werribee	Red Poll	5,981	5·05	301·84	Earl of Beaconsfield
59	Yorkshire Dominion Gracie ..	J. Plattfuss ..	Friesian	8,599	3·50	301·30	Dominion Oakwood
60	Mercedes' Buttercup 3rd of Avalon	F. Austin ..	Jersey	5,891	5·09	299·79	Mercedes' Chief of Glen Iris
61	Twylish Countess of Leven Brae	T. R. Findlay ..	,,	6,249	4·79	299·46	Twylish Fox of Colac
62	Violet of the Valley ..	Mrs. L. Lowing ..	,,	6,752	4·39	296·33	Foxglove of the Valley
63	Laurel of Cathcart ..	A. W. Gorman ..	Ayrshire	7,226	4·09	295·37	Inquisitor of Ben Kell
64	Blossom 8th of Melrose ..	W. Woodmason ..	Jersey	5,559	5·30	294·85	Golden Fern's Viscount
65	Dookie Pretty ..	Dookie Agricultural College	Ayrshire	6,080	4·85	294·66	Trustee of Oakbank
66	Chance of Willow Park ..	W. K. Atkinson ..	Milking Shorthorn	6,627	4·44	294·14	Radium of Willow Park
67	Bella of Latrobe ..	E. H. Howlett ..	Jersey	5,424	5·41	293·22	Duke of Banyule
68	Winsome of Park View ..	J. McDougall ..	,,	6,422	4·56	293·05	Tony of Fair View
69	Beatrice of the Wattles ..	N. H. Enders ..	,,	5,171	5·48	283·31	Duke of Bonshaw
70	Sparkle 5th of Carracoorte ..	W. Henderson ..	Ayrshire	5,336	5·30	282·73	Lena's Problem of Carracoorte
71	Trinket of Aveley ..	Aveley Stud Farm Pty. Ltd.	Jersey	5,130	5·43	278·40	Choirmaster of Banyule
72	Lily of Latrobe ..	E. H. Howlett ..	,,	5,481	5·05	276·78	Duke of Banyule
73	Dookie Pat	Dookie Agricultural College	Ayrshire	5,168	5·34	275·99	Fashion's Optimist of Warrook
74	V.C. Ohio	J. V. M. Wood ..	Jersey	5,229	5·18	271·07	Ohio's Prime Minister
75	Margie of Colac ..	N. C. De La Rue ..	,,	4,610	5·87	270·60	Twylish Queen's Fox
76	Brownie 10th of Carracoorte	W. Henderson ..	Ayrshire	5,943	4·52	268·75	Maxwell of Sparrovale
77	Victoria War Patch ..	Department of Agriculture, Werribee	Friesian	6,327	4·23	267·36	Victoria Jo Patch
78	Victoria Carraway ..	Department of Agriculture, Werribee	,,	7,687	3·46	265·63	Victoria Jo Patch
79	Gaiety Girl 15th of Melrose	W. Woodmason ..	Jersey	4,295	6·14	263·79	Jessie 13th's Count of Melrose
80	Queenie 7th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,914	3·79	262·37	Radium of Willow Park
81	Duchess 6th of Goulburn	P. J. Ducat ..	Jersey	4,391	5·72	250·98	Rufus of Melrose
82	Gowrie Park Shirlie ..	G. Taylor ..	Ayrshire	6,789	3·64	247·00	Scottish Hero of Gowrie Park
83	Carnation of Wayside ..	W. Harker ..	,,	6,384	3·85	245·48	Lella's Optimist of Warrook
84	Eileen of Elimatta ..	H. Dettmann ..	Jersey	4,617	5·28	243·67	Nyland Merry Boy
85	Bon Bon of Cloverfield	A. Joshua ..	,,	4,398	5·51	242·39	Rajah of Springhurst
86	Scotswood Myriad ..	A. H. Schier ..	Ayrshire	5,471	4·34	237·17	Comrade of Fassifern
87	Bertha of Richlands ..	W. Onley ..	,,	5,444	4·31	234·50	Dunrobin of Glengowrie
88	Coral 9th of Carracoorte	W. Henderson ..	,,	5,468	4·26	233·05	Maxwell of Sparrovale
89	Victoria Coronet ..	Department of Agriculture, Werribee	Red Poll	4,437	4·99	221·58	Bit-o-bacca
90	Violet of Jersey Vale ..	Mrs. L. Orchard ..	Jersey	3,825	5·55	212·18	Choice 2nd of Tarnpirr
91	Bellona 7th of Carracoorte	W. Henderson ..	Ayrshire	4,809	4·17	200·63	Maxwell of Sparrovale
92	Tulip of Wayside ..	W. Harker ..	,,	4,502	4·41	198·34	Pride of Thirlmere
93	Blanche 2nd of Carracoorte	W. Henderson ..	,,	4,529	4·29	194·48	Maxwell of Sparrovale
94	Empress of Hillcrest ..	Mrs. M. and W. A. Francis	,,	4,280	4·49	192·13	Iron Duke of Gowrie Park
95	Fulham Lucy ..	Cockbill Bros. ..	,,	4,418	4·31	190·35	His Majesty of Wethersdane
96	Music of Longerenong ..	Longerenong Agricultural College	,,	4,320	4·26	183·90	Aristocrat of Woongarra
97	Songstress 6th of Brookfield	W. Parbury ..	Jersey	3,450	5·30	182·79	Werribee Wyandotte's Star
98	Coral of Thirlmere ..	D. Harker ..	Ayrshire	4,688	3·76	176·23	Majesty of Fernhill
99	Fulham Verose ..	Cockbill Bros. ..	,,	4,107	4·07	167·04	His Majesty of Wethersdane
100	Scotswood Merline ..	A. H. Schier ..	,,	3,257	4·68	152·53	Bellboy of Oakbank
101	Ena of Hillcrest ..	Mrs. M. and W. A. Francis	,,	2,063	4·62	95·36	Iron Duke of Gowrie Park
102	Scotswood Maybelle ..	A. H. Schier ..	,,	2,025	4·52	91·56	Bellboy of Oakbank

JUNIOR 3 YEAR OLD. (Between 3 and 3½ Years.) 250 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Carrie 3rd of Queen's vale	W. H. Hurrey ..	Jersey	7,832	6·93	542·78	Linda's Record 7th of King's Vale
2	Bolobek Etta ..	O. J. Syme ..	Friesian	15,752	3·31	521·14	Matador Highland Segis
3	Molly Madeira of Bruce vale	P. Chirnside ..	Jersey	7,333	6·88	504·37	Masterpiece
4	Lady Fowler 3rd of Rosemont	R. H. Maher ..	,,	7,482	6·32	472·64	Rosella 2nd's Noble of Rosemont
5	Bolobek Esther ..	O. J. Syme ..	Friesian	12,416	3·74	464·91	Matador Highland Segis
6	Bruce vale Graceful Countess	P. Chirnside ..	Jersey	6,629	6·73	445·96	Werribee Madeira's King
7	Silversand of Glen Valley	J. A. Huffer ..	,,	7,770	5·74	445·85	Pansy's Eminent of Rosemont
8	Camelia of Willow Park	W. K. Atkinson ..	Milking Shorthorn	10,362	4·26	440·97	Count of Willow Park
9	Milklass of Belgonia ..	P. J. Maloney ..	Jersey	7,809	5·53	431·52	Prince of Belgonia
10	Molly 17th of Banyule	C. G. Lyon ..	,,	7,194	5·98	430·41	Milkmaid's Chief of Banyule
11	Lady Marge 5th of Jerseyholm	T. Harvey ..	,,	7,275	5·87	426·90	Alliance 3rd of Jerseyholm
12	Victoria Seasprite ..	Department of Agriculture, Burnley	,,	6,400	6·65	425·33	Merman of Yarra Brae
13	Chief's Clara of Boorene	H. N. Littledike ..	,,	7,719	5·39	416·16	Chloe's Mercedes' Chief of Glen Iris
14	Daisy 3rd of Ballara ..	G. Esler	,,	7,839	5·31	415·99	Silver Boy of Wooringa
15	Princess 2nd of Banyule	C. G. Lyon ..	,,	7,032	5·84	410·53	Wotton Airman
16	Countess 3rd of Springhurst	J. D. Read ..	,,	7,668	5·26	403·23	Alloy of Banyule
17	Tressy of Sunnyford ..	J. V. M. Wood ..	,,	6,488	6·20	401·97	Sparkle's Chief
18	Burnbank Victress Alcartra	J. M. Foster ..	Friesian	10,469	3·81	398·72	King Alcartra Netherland
19	Novelty of Parkview ..	J. McDougall ..	Jersey	7,722	5·15	397·86	Toney of Fairview
20	Lily 2nd of Latrobe ..	E. H. Howlett ..	,,	7,598	5·24	397·79	Duke of Banyule
21	Trixie Lass of Edmonton	H. Cowling ..	,,	6,252	6·31	394·41	Big Chief of Glen Iris
22	Tulip 3rd of Springhurst	J. D. Read ..	,,	8,085	4·86	393·45	Alloy of Banyule
23	Molly 18th of Banyule	C. G. Lyon ..	,,	7,514	5·21	391·64	Wotton Airman
24	Maiwand Blossom ..	G. Esler	,,	7,967	4·92	391·61	Jubilee Velvetlight
25	Patricia of Whitley ..	G. Esler	,,	6,468	5·98	386·53	Prince of Belgonia
26	Phyllis of Queen's Vale	E. J. Vagg ..	,,	6,674	5·66	377·42	Daphne's Peer of Queen's Vale
27	Silvermine 31st of Banyule	C. G. Lyon ..	,,	6,699	5·57	373·04	Wotton Airman
28	Jessie 43rd of Melrose..	W. Woodmason ..	,,	6,183	5·85	361·40	Golden Fern's Viscount
29	Noble's Buttercup of Avalon	F. Austin ..	,,	6,207	5·79	359·43	Noble of Linden
30	Ranee of Cloverfield ..	W. O. Westlake ..	,,	6,710	5·34	358·36	Rajah of Springhurst
31	Victoria Joan of Arc ..	Department of Agriculture, Werribee	Red Poll	7,664	4·62	354·34	Belligerent
32	Romneya 2nd of Springhurst	J. D. Read ..	Jersey	7,044	5·02	353·78	Alloy of Banyule
33	Goldfield Trixie ..	J. J. Baker ..	,,	6,555	5·40	353·68	Assayer of Banyule
34	Merella of the Valley ..	Mrs. E. M. Lennie	,,	6,312	5·58	351·96	Foxglove of the Valley
35	Azalea 2nd of Springhurst	J. D. Read ..	,,	5,613	6·25	350·96	Starbright's Prince of Glen Iris
36	Burnbank Lolkje Patch	J. Plattfuss ..	Friesian	10,397	3·36	349·75	Rock Patch
37	Charmian 3rd of Warenda	T. Mesley ..	Jersey	5,250	6·66	349·63	Kewpie of Warenda
38	Music of the Valley ..	Mrs. E. M. Lennie	,,	6,429	5·40	346·99	Sweet Fox of the Valley
39	Fulham Virtue ..	Cockbill Bros. ..	Ayrshire	7,490	4·56	342·12	His Majesty of Wethersdane
40	Princess of Tooravale ..	J. E. Handbury and Sons	Jersey	5,898	5·78	340·76	Robert of Melrose
41	Jessie 42nd of Melrose..	G. Rowe ..	,,	6,035	5·64	340·15	Jessie 13th's Count of Melrose
42	Victoria Songbell ..	Department of Agriculture, Werribee	Friesian	9,306	3·65	339·38	Victoria Songboy
43	Molly 19th of Banyule	C. G. Lyon ..	Jersey	6,308	5·36	337·96	Wotton Airman
44	Sweet Star of Glen Iris	Gibson Bros. ..	,,	5,489	6·13	336·64	Sweetbread's Duke of Glen Iris
45	Queen of Woorayl ..	Leongatha High School	,,	5,073	6·63	336·52	Cream Duke of Glen Iris
46	Melba of Roseleigh ..	G. Gange ..	Ayrshire	8,103	4·12	334·14	Marquis of Roseleigh
47	Rose of Colac ..	T. R. Findlay ..	Jersey	5,976	5·56	332·56	Viscount of Melrose
48	St. Oram's Gem ..	A. E. Enders ..	Friesian	8,693	3·82	331·90	Dominion Oakwood
49	Victoria Hula.. ..	Department of Agriculture, Werribee	,,	8,679	3·82	331·50	Proud Patch
50	Snow's Petal of Farringdon	J. V. M. Wood ..	Jersey	5,538	5·97	330·67	Maitland's Petal's Pride of Elouera

JUNIOR 3 YEAR OLD. (BETWEEN 3 AND 3½ YEARS.) 250 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
51	Victoria Sweetbriar ..	Department of Agriculture, Werribee	Red Poll	6,662	4·92	327·50	Belligerent
52	Handsome Pansy of Welbourne	G. Rowe ..	Jersey	6,795	4·80	326·32	Beauty's Prince of Somerville
53	Hawthorn 12th of Banyule	C. G. Lyon ..	,,	6,016	5·37	322·88	Wotton Airman
54	Mona's Bonnie Girl of Linga Longa	R. S. Williams ..	,,	5,777	5·55	320·83	Jessie's Handsome Boy
55	Burnbank Homestead Patch	H. Allez	Friesian	8,985	3·55	318·98	Rock Patch
56	Rosella 11th of King's Vale	J. Anderson, junr...	Jersey	5,909	5·39	318·41	Royal Rose's V.C. of King's Vale
57	Alsyke 3rd of Springhurst	G. A. McNabb and Son	,,	6,276	5·07	318·14	Alloy of Banyule
58	Silvermine 30th of Banyule	C. G. Lyon ..	,,	6,156	5·11	314·87	Milkmaid's Chief of Banyule
59	Queenie 8th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	7,948	3·96	314·85	Radium of Willow Park
60	Merle of Longerenong ..	Longerenong Agricultural College	Ayrshire	6,714	4·68	314·17	Aristocrat of Woongarra
61	Meadow Queen of Warenda	T. Mesley ..	Jersey	6,044	5·19	313·41	Kewpie of Warenda
62	Linda 4th of the Valley	Mrs. E. M. Lennie..	,,	6,840	4·57	312·92	Foxglove of the Valley
63	Fairy Queen of Blackwood Valley	D. E. Cook ..	,,	4,550	6·86	311·95	Retford Mourier Lad
64	Robena of Sparrovale..	Geelong Harbour Trust	Ayrshire	6,386	4·86	310·39	Alpha of Sparrovale
65	Rare Gal of Hazeldale ..	A. J. Mapleson ..	Jersey	5,588	5·54	309·79	Dinkum of Banyule
66	Silvermine 32nd of Banyule	R. P. Hastings ..	,,	6,174	5·01	309·06	Wotton Airman
67	Lady Fowler of Rosemont	F. Raggatt	,,	6,119	5·04	308·22	Rosella 2nd's Noble of Rosemont
68	Dolly 4th of King's Vale	J. Anderson, junr...	,,	5,926	5·20	307·93	Rosella's V.C. of King's Vale
69	Dulcie of Willow Park	W. K. Atkinson ..	Milking Shorthorn	7,823	3·92	307·02	Havelock of Darbalara.
70	Betts-y-Coed ..	Miss S. L. Robinson	Jersey	5,599	5·47	306·20	Pedro
71	Golden Wattle of Beverley	W. H. Atherton ..	,,	5,220	5·81	303·53	Rajah of Windouran
72	Flower of Taranah ..	C. W. Macauley ..	,,	5,679	5·30	300·99	Lily 6th's Son of Melrose
73	Butterfly of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,419	4·68	300·69	Colonel of Willow Park
74	Madonna of Aberdour ..	J. V. M. Wood ..	Jersey	5,312	5·66	300·65	The Laird of Aberdour
75	Victoria Avesta ..	Department of Agriculture, Werribee	Red Poll	6,293	4·77	300·41	Belligerent
76	Rosalind 8th of Brookfield	W. Parbury ..	Jersey	5,867	5·06	297·03	Werribee Wyandotte Star
77	Noble's Queen of Avalon	Foster Bros. ..	Jersey	4,500	6·53	293·66	Noble of Linden
78	May Queen 2nd of Parkview	J. McDougal ..	,,	5,391	5·42	292·25	Toney of Fairview
79	Gipps Guinivere ..	Warragul High School	Red Poll	6,504	4·41	286·79	Victoria King Merlin
80	Fern of Jersey Vale ..	Mrs. L. Lowing ..	Jersey	5,585	5·06	282·57	Choice of Tarnpirr
81	Roseleaf of Roseleigh ..	G. Gange ..	Ayrshire	7,832	3·60	282·34	Deacon of Gowrie Park
82	Heiress of Cathcart ..	A. W. Gorman ..	,,	6,260	4·51	282·02	Poppy's Advance of Ben Kell
83	River Glen Bluebell ..	N. R. Gange ..	,,	6,045	4·64	280·66	Sterling of Gowrie Park
84	Queenie 6th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,810	4·12	280·27	Radium of Willow Park
85	Beauty of Colac ..	N. C. De La Rue ..	Jersey	5,375	5·20	279·63	Prince of Colac
86	Bolinda's Handsome Girl of Linga Longa	F. Austin ..	,,	3,873	7·11	275·58	Jessie's Handsome Boy
87	Thora 2nd of Jersey Meadows	J. E. Chadderton ..	,,	4,965	5·55	275·47	Joffre of Comely Banks
88	Victoria Patchwork ..	Department of Agriculture, Werribee	Friesian	7,304	3·74	273·45	Victoria Jo Patch
89	Burnbank Inka Segis Catriona	J. T. Tweddle ..	,,	7,208	3·79	273·26	Alderley Segis Beets
90	Matron of Sparrovale ..	Geelong Harbour Trust	Ayrshire	6,162	4·38	269·80	The Beau of Sparrovale
91	Favourite of Cathcart ..	A. W. Gorman ..	,,	5,928	4·55	269·84	Poppy's Advance of Ben Kell
92	Tregorland Ivoline ..	J. F. Tuckey ..	,,	6,909	3·88	268·07	Bonnie Bloom of Gowrie Park
93	River Glen Daphne ..	G. Gange ..	,,	6,773	3·94	267·15	Fuchsia's Fredrick of Warrook
94	Stella of Thirlmere ..	D. Harker ..	,,	5,836	4·57	266·84	Pride of Thirlmere

JUNIOR 3 YEAR OLD. (BETWEEN 3 AND 3½ YEARS.) 250 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
95	Beauty 6th of Brookfield	W. Parbury ..	Jersey	7,088	3·76	266·79	Werribee Wyandotte's Star
96	Pet of Woolamai Park..	G. Kent	Ayrshire	6,330	4·19	264·98	Statesman of Gowrie Park
97	Duchess 5th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,512	4·06	264·10	Count of Willow Park
98	Bolobek Model ..	O. J. Syme ..	Friesian	7,520	3·51	264·10	Matador Highland Segis
99	Sparrovale Echo ..	Geelong Harbour Trust	Ayrshire	6,240	4·23	263·90	Alpha of Sparrovale
100	Sparklight's Pansy of Welbourne	G. Rowe ..	Jersey	4,199	6·28	263·10	Sparklight's Duke of Gleneira
101	Jessie 1st of Narrawong	R. Purnell ..	,,	4,455	5·84	260·38	Garantie's Hero of St. Albans
102	Josephine of Aveley ..	Aveley Stud Farm Pty. Ltd.	,,	4,091	5·19	258·83	His Majesty of Somerville
103	Clover Hill Beaumode ..	W. Regnier ..	Friesian	6,883	3·75	258·20	Bolobek Mayne
104	Dulcie of Woolamai Park	G. Kent	Ayrshire	6,332	4·06	257·08	Statesman of Gowrie Park
105	Countess 2nd of Willow Park	W. K. Atkinson ..	Milking Shorthorn	5,241	4·90	256·89	Radium of Willow Park
106	Karalee Duchess ..	G. Dwyer ..	Jersey	4,337	5·81	253·10	Foch of Jerrara
107	Burnbank Spring Patch	J. Plattfuss ..	Friesian	7,022	3·59	251·99	Rock Patch
108	Garenne 6th of Warenda	Mrs. A. Black ..	Jersey	4,340	5·73	248·88	Kinnoir of Banyule
109	Lorraine of Leathorne ..	Gibson Bros. ..	,,	4,428	5·53	245·08	Ideal of Leathorne
110	Peggy of Willow Park ..	W. K. Atkinson ..	Milking Shorthorn	5,433	4·49	244·14	Radium of Willow Park
111	Daisy of Rupertswood	Salesian College ..	Ayrshire	5,184	4·69	242·97	Anthony of Gleneira
112	Rosie of Hillcrest ..	Mrs. M. and W. A. Francis	,,	5,560	4·37	242·95	Iron Duke of Gowrie Park
113x	Madge of Longerenong..	Longerenong Agricultural College	,,	5,618	4·17	234·42	Life Buoy of Gowrie Park
114	Canary 17th of King's Vale	J. Anderson, junr...	Jersey	4,274	5·46	233·27	Jessemia's Imperial 5th of King's Vale
115	Gladfield Duplicate Posch Princess	H. Allez	Friesian	6,308	3·70	233·13	Bolobek Prince Duplicate Posch
116	Sybil's Oakleaf of Woodside	Miss S. L. Robinson	Jersey	4,583	5·08	232·87	Pedro
117	Scotswood Bonnie ..	A. H. Schier ..	Ayrshire	4,724	4·88	230·74	Scotswood Bruce
118	Phyllis of the Valley ..	Mrs. L. Lowing ..	Jersey	5,321	4·28	227·90	Foxglove of the Valley
119	Merry of Woolamai Park	G. Kent	Ayrshire	4,613	4·91	227·68	Bonnie Boy of Woolamai Park
120	Scotswood Darling ..	A. H. Schier ..	,,	5,450	4·17	227·52	Scotswood Gold Nuggett
121	Beauty 2nd of Richlands	W. H. Onley ..	,,	5,777	3·93	227·05	Dunrobin of Glengowrie
122	Tina of Yarragum ..	W. H. Onley ..	,,	4,935	4·54	224·19	Combination of Glengowrie
123	Glengowrie Butterfly ..	G. Gange ..	,,	5,535	4·02	222·45	Radium of Glengowrie
124	Plum of Longerenong ..	Longerenong Agricultural College	,,	5,199	4·25	221·06	Aristocrat of Woongarra
125	Dainty Mary of Ben Kell	R. Ralston ..	,,	4,958	4·45	220·42	Girvan of Oakbank
126	Last Choice of Woorayl	Leongatha High School	Jersey	3,205	6·77	217·12	Cream Duke of Glen Iris
127	Nellie 2nd of Gleneira ..	K. P. H. Young ..	Ayrshire	5,636	3·79	213·44	Brilliant's Banner of Oakbank
128	Scotswood Modena ..	A. H. Schier ..	,,	4,835	4·41	213·33	Bellboy of Oakbank
129	Marie Antoinette of Aveley	Aveley Stud Farm Pty. Ltd.	Jersey	4,260	4·95	210·95	His Majesty of Somerville
130	Yorkshire Oakwood Cordyline	J. Plattfuss ..	Friesian	5,768	3·58	206·30	Dominion Oakwood
131	Empire of Peri ..	J. Phillips ..	Jersey	3,408	6·04	205·90	Jessie 13th's Count of Melrose
132	Lynette of Leathorne ..	Gibson Bros. ..	,,	3,419	6·02	205·73	Ideal of Leathorne
133	Alva of Thirlmere ..	D. Harker ..	Ayrshire	4,801	4·27	205·16	Majesty of Fernhill
134	Goldfinch of Cloverfield	A. Joshua ..	Jersey	3,299	6·17	203·70	Rajah of Springhurst
135	Wood Golden Eclipse ..	J. Cook	,,	3,822	5·03	192·21	Golden 2nd of Jersey Vale
136	Burnbank Sylvia Alcartra	J. T. Tweddle ..	Friesian	4,680	4·09	191·37	Burnbank Rosiekirk Triumph
137	Gala Rosevale Pauline	W. A. Regnier ..	,,	5,637	3·39	191·31	Rosevale Korndyke Colontha
138	Princess 4th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	5,495	3·47	190·90	Count of Willow Park
139	Alice of Rupertswood ..	Salesian College ..	Ayrshire	4,733	4·01	189·79	Laurie of Kelvin Grove
140	Betsy 17th of Carracoorte	W. Henderson ..	,,	4,640	3·97	184·02	Image of Wethersdane
141	Dominion Yorkshire Lassie	H. Allez	Friesian	5,415	3·35	181·37	Dominion Oakwood
142	Coilsfield Fay ..	A. H. Schier ..	Ayrshire	3,886	4·17	162·21	Boaz of Weathersdane
143	Vanity Fair of Woorayl	Leongatha High School	Jersey	2,100	6·80	142·82	Cream Duke of Glen Iris

JUNIOR 3 YEAR OLD. (BETWEEN 3 AND 3½ YEARS.) 250 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
144	Scotswood Dainty ..	A. H. Schier ..	Ayrshire	2,805	4·48	125·57	Bellboy of Oakbank
145	Morning Beauty of Clover Flat	A. C. Willis ..	Jersey	2,250	5·57	125·27	Beauty's Lad
146	Star of Longerenong ..	Longerenong Agricultural College	Ayrshire	2,760	4·45	122·70	Aristocrat of Woongarra
147	Nightingale of Roseneath	R. Goodman ..	„	2,370	4·12	97·75	Triumph of Burnside

SENIOR 2 YEAR OLD. (Between 2½ and 3 Years.) 225 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Daffodil of Grangelea ..	A. A. Broad ..	Jersey	9,350	5·35	499·79	Mistletoe V.C. of Tarnpirr
2	Model of Ballara ..	F. Trevaskis ..	„	8,153	5·50	448·28	Werribee Madeira Cream's Masterpiece
3	Narcissus of Springhurst	J. D. Read ..	„	7,643	5·66	432·63	Starbright's Prince of Glen Iris
4	Mercedes' Pansy 2nd of Avalon	F. Austin ..	„	7,527	5·72	430·70	Mercedes' Chief of Glen Iris
5	St. Alban's Rose's Queen	I. Padgett ..	Friesian	11,739	3·62	424·77	St. Alban's May Queen Netherland Prince
6	Verbena of Glen Valley	J. A. Huffer ..	Jersey	7,541	5·58	420·91	Jewel 3rd's Morocco's Fox
7	Karoola Honey Bee ..	H. W. King ..	„	8,057	5·11	412·03	Gordon of Oaklands
8	Peach of Cloverfield ..	A. Joshua ..	„	7,076	5·71	403·95	Character of Cloverfield
9	May Song of Warenda	T. Mesley ..	„	6,123	6·56	401·74	Oriel of Warenda
10	Gladiolus 2nd of Springhurst	J. D. Read ..	„	6,795	5·90	400·67	Starbright's Prince of Glen Iris
11	Lassie 2nd of Ballara ..	F. Trevaskis ..	„	7,895	5·06	399·14	Silver Boy of Wooringa
12	Duchess of Avalon ..	F. Austin ..	„	6,746	5·91	398·94	Mercedes' Chief of Glen Iris
13	Petal of Paisley ..	J. Clyne ..	„	7,840	5·06	396·98	Double Twylish of Elouera
14	Marguerite of Paradise	H. N. Littledike ..	„	7,487	5·22	390·80	Werribee Northern Larkspur's Fancy
15	Sunny Brae Fancy Rose	J. A. Huffer ..	„	7,466	5·20	387·87	Werribee Northern Larkspur's Fancy
16	Mignonette of Grangelea	A. A. Broad ..	„	6,323	5·92	374·47	Golden Twylish
17	Grangelea Dainty 2nd ..	A. A. Broad ..	„	6,914	5·39	372·58	Defender's V.C. of Grangelea
18	Winnie's Midget of Welbourne	E. J. Vagg ..	„	5,139	7·20	370·23	Sparklight's Duke of Glen Iris
19	Carranballac Zoe 5th's Fancy	W. A. Axford ..	„	7,140	5·11	365·08	Sir Fancy Madeira of Werribee
20	Empress 5th of Jerseyholm	T. Harvey ..	„	5,609	6·46	362·55	Alliance 3rd of Jerseyholme
21	Golden Pansy of Welbourne	E. J. Vagg ..	„	6,655	5·39	358·87	Beauty's Prince of Somerville
22	Twylish's Perree of Leven Brae	T. R. Findlay ..	„	7,151	5·00	357·47	Twylish's Fox of Colac
23	Wattle of Grandview ..	R. Masters ..	Ayrshire	7,773	4·59	357·05	Lang of Gleneira
24	Empire of Colac ..	T. R. Findlay ..	Jersey	7,178	4·95	355·53	Prince of Colac
25	Rosa of Grangelea ..	A. A. Broad ..	„	6,651	5·29	351·59	Mistletoe 2nd's V.C. of Tarnpirr
26	Lady Grey of Colac ..	T. R. Findlay ..	„	6,819	5·15	350·86	Viscount of Melrose
27	Roseleigh Bloom ..	G. Gange ..	Ayrshire	7,938	4·34	344·81	Oakbank Reply
28	Twylish Miss Maitland of Rydon	G. and W. Smith ..	Jersey	7,573	4·52	342·67	Double Twylish of Elouera
29	Araluen Chloe ..	J. V. M. Wood ..	„	6,080	5·55	337·69	Rose's V.C. of Clarendon Eyre
30	Victoria Bel. Tamo ..	Department of Agriculture, Werribee	Red Poll	7,888	4·27	336·49	Tam-o-Shanta
31	St. Alban's Queen Beauty	A. J. Eldridge ..	Friesian	9,126	3·68	335·77	St. Alban's May Queen's Netherland Prince
32	Melrose Graceful Duchess 39th	W. Woodmason ..	Jersey	5,754	5·79	333·43	Jessie 13th's Count of Melrose
33	Wattle Bloom of Beverley	W. H. Atherton ..	„	6,621	4·97	329·08	Rosella's Lad of King's Vale
34	Empress 6th of Jerseyholm	T. Harvey ..	„	5,838	5·63	328·72	Handsome Boy 5th of Melrose
35	Victoria Amara ..	Department of Agriculture, Werribee	Red Poll	6,942	4·63	321·43	Belligerent

SENIOR 2 YEAR OLD. (BETWEEN 2½ AND 3 YEARS.) 225 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
36	Dairy Maid 6th of Waterloo Farm	J. V. M. Wood ..	Jersey	4,899	6·52	319·61	Prince Renard of Waterloo Farm
37	Dinkum Rose of Hazeldale	A. J. Mapleson ..	,,	5,372	5·94	319·21	Dinkum of Banyule
38	Dorothy 3rd of Banyule	R. P. Hastings ..	,,	5,430	5·82	316·01	M.A.T. of Banyule
39	St. Alban's Cordyline Inka	A. J. Eldridge ..	Friesian	8,400	3·75	315·80	St. Alban's May Queen's Netherland Prince
40	Victoria Ghetto ..	Department of Agriculture, Werribee	Red Poll	7,199	4·39	315·76	Belligerent
41	Lady Meadowsweet of Bruce vale	F. Trevaskis ..	Jersey	4,437	7·12	315·76	Werribee Madeira's King
42	Castle Hill Empress ..	J. Plattfuss ..	Friesian	9,206	3·42	315·22	Rockbank Prince
43	Yorkshire Dominion Gracie	J. Plattfuss ..	,,	8,022	3·93	315·21	Dominion Oakwood
44	Garenne 7th of Warenda	T. Mesley ..	Jersey	5,775	5·44	313·96	Lord Baritone of Warenda
45	Mona's Bonnie Girl of Linga Longa	R. S. Williams ..	,,	5,100	6·15	313·82	Jessie's Handsome Boy
46	Linda 64th of King's Vale	J. Anderson, jun. ..	,,	5,451	5·74	312·73	Jessemia's Imperial 5th of King's Vale
47	Cream Belle 6th of Gnarbrook	W. Hurrey ..	,,	5,950	5·24	311·96	Prince of Belgonia
48	Milkmaid of Tooravale..	J. E. Handbury & Sons	,,	4,750	6·56	311·78	Welkin of Melrose
49	Victoria Pele	Department of Agriculture, Werribee	Red Poll	7,121	4·34	308·76	Victoria Volcano
50	Old Gold of Glen Iris..	Gibson Bros. ..	Jersey	4,593	6·68	306·96	Mercedes' Sweet Duke of Glen Iris
51	Sparkle 9th of Jerseyholm	Mrs. A. C. Overend	,,	5,013	6·12	306·69	Marge 2nd's Hero of Jerseyholm
52	Buttercup 3rd of Airlie	P. J. Ducat ..	,,	5,757	5·32	306·39	Maybe of Banyule
53	Duchess of Lumeah ..	J. Charlton ..	,,	5,297	5·76	305·15	Brown Duke of Muree
54	Opal of Cathcart ..	A. W. Gorman ..	Ayrshire	7,571	4·03	305·02	Poppy's Advance of Ben Kell
55	Vanilla of Peri ..	J. Phillips ..	Jersey	5,100	5·59	301·62	Carnation's Bosun of Peri
56	Romany Rye of Aberdour	Simpson and Son ..	,,	6,168	4·88	301·00	Lord 2nd of Bruce vale
57	Tregorland Kicks ..	J. F. Tuckey ..	Ayrshire	7,838	3·84	300·61	Bonnie Bloom of Gowrie Park
58	Vanilla of Mendip ..	L. W. Thompson ..	Jersey	5,298	5·66	299·76	Jessie 13th's Count of Melrose
59	Trefoil 4th of Springhurst	J. D. Read ..	,,	6,117	4·89	299·14	Alloy of Banyule
60	Dookie Solome ..	Dookie Agricultural College	Ayrshire	6,933	4·31	298·82	Majestic of Burwood
61	Muriel of Cathcart ..	A. W. Gorman ..	,,	6,321	4·72	298·11	Poppy's Advance of Ben Kell
62	Mystery 2nd of Belgonia	Mrs. L. Lowing ..	Jersey	5,945	5·00	297·51	Prince of Belgonia
63	Creamy of Olivedale ..	W. Fixter and Son	,,	5,175	5·42	296·80	Emperor
64	Studleigh Duchess ..	D. Cameron and Sons	,,	5,048	5·84	294·80	Buonaparte of Springhurst
65	Noorat Sunflower ..	Mrs. A. J. Black ..	,,	6,140	4·76	292·45	Anvil of Glen Iris
66	Nutmeg of Cloverfield	A. Joshua ..	,,	5,136	5·67	291·15	Character of Cloverfield
67	Vanilla 24th of Melrose	W. Woodmason ..	,,	4,859	5·97	289·89	Sunset of Melrose
68	Madam Melba of Hazeldale	A. J. Mapleson ..	,,	6,284	4·61	289·89	Dinkum of Banyule
69	Bolobek Antoinette ..	O. J. Syme ..	Friesian	7,550	3·83	289·44	Matador Highland Segis
70	Merit of Holly Green ..	H. L. Webb ..	Ayrshire	6,330	4·56	288·73	Annie's Record of Holly Green
71	Victoria Pouch ..	Department of Agriculture, Werribee	Red Poll	5,429	5·18	281·44	Vic. Bit-o-bacca
72	Myra 4th of the Valley	Mrs. L. Lowing ..	Jersey	5,867	4·80	281·39	Foxglove of the Valley
73	Carnation of Peri ..	J. Phillips ..	,,	5,564	5·03	279·68	Bosun's Pride of Peri
74	Moira of Ballara ..	Foster Bros. ..	,,	4,730	5·91	279·66	Werribee Madeira Cream's Masterpiece
75	Minerva's Balm 8th of Carracoorte	W. Henderson ..	Ayrshire	6,297	4·44	279·50	Donald of Sparrovale
76	Hope's Surprise of Peri	J. Phillips ..	Jersey	6,143	4·52	277·84	Bosun's Pride of Peri
77	Victoria Pattibelle ..	Department of Agriculture, Burnley	Friesian	7,680	3·57	273·90	Victoria Jo Patch
78	Golden Jazz of Woodside	Miss S. L. Robinson	Jersey	5,340	5·08	271·52	Montrose Sultan
79	Bow Bell of Ben Kell ..	D. Ralston ..	Ayrshire	6,762	4·01	271·47	Patronius of Ben Kell
80	Dookie Pearlie ..	Dookie Agricultural College	,,	6,123	4·41	270·21	Majestic of Burwood
81	Warenda Dame Nellie ..	T. S. Dowson ..	Jersey	6,146	4·35	267·46	Kinnor of Banyule
82	Pearl of Mendip ..	L. W. Thompson ..	,,	5,545	4·81	266·90	Jessie 13th's Count of Melrose
83	Carnation of Willow Park	W. K. Atkinson ..	Milking Shorthorn	5,849	4·55	266·15	Havelock of Darbalara
84	Goldfield Trixie 2nd ..	H. Dettmann ..	Jersey	4,800	5·53	265·65	Assayer of Banyule

SENIOR 2 YEAR OLD. (BETWEEN 2½ AND 3 YEARS.) 225 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
85	Gladfield Peerless Posch	H. Allez ..	Friesian	8,120	3·27	265·56	Bolobek Prince Duplicate Posch
86	Merri Girl of Linga Longa	Mrs. I. Beard ..	Jersey	4,269	6·20	264·76	Jessie's Handsome Boy
87	River Glen Bunty ..	N. R. Gange ..	Ayrshire	5,453	4·82	263·05	Stirling of Gowrie Park
88	Velveteen of Clover Flat	P. C. McHutchinson	Jersey	5,150	5·16	262·66	Matador of Banyule
89	Brown Star of Glen Iris	Miss S. L. Robinson	,,	4,193	6·17	258·78	Starbright's Prince of Glen Iris
90	Olive Dale Shirley ..	A. T. N. Facey ..	Ayrshire	7,292	3·53	257·55	Sunshine of Olive Dale
91	Gipps Elaine	Warragul High School	Red Poll	6,706	3·81	255·40	Victoria King Merlin
92	Cream Rose 2nd of Moss Vale	E. J. Vagg ..	Jersey	4,752	5·36	254·59	Cymbal of Warenda
93	Queenie of Franklin Park	W. A. Sandles ..	,,	5,228	4·86	253·96	Monash of Melrose
94	Lassie of Murta ..	T. Mesley ..	,,	4,875	5·21	253·88	King of Murta
95	River Glen Ada ..	N. R. Gange ..	Ayrshire	5,270	4·81	253·39	Stirling of Gowrie Park
96	Phyllis of the Valley ..	Mrs. L. Lowing ..	Jersey	6,113	4·14	253·32	Foxglove of the Valley
97	Bona Vista Jessie 3rd ..	T. Knowles ..	Ayrshire	5,777	4·38	253·09	Bona Vista Majesty
98	Dookie Iris	Dookie Agricultural College	,,	5,600	4·44	248·41	Optimist of Warrook
99	Victoria Velverete ..	Department of Agriculture, Werribee	Red Poll	5,604	4·41	246·74	Vic. Bit-o-bacca
100	Rosalind 9th of Brookfield	W. Parbury ..	Jersey	4,668	5·23	243·97	Werribee Wyandotte's Star
101	Victoria Crater ..	Department of Agriculture, Werribee	Red Poll	5,330	4·58	243·87	Victoria Volcano
102	Lucerne Vale Trixie ..	N. C. De La Rue ..	Jersey	4,145	5·79	239·93	Progress of Colac
103	Lauriston Brown Duchess	J. L. Gardener ..	,,	4,245	5·64	239·39	Duke of Willis Vale
104	Tregorland Key ..	J. F. Tuckey ..	Ayrshire	6,344	3·73	236·70	Larus of Gowrie Park
105	Panook of Dookie ..	Dookie Agricultural College	,,	4,682	5·02	235·17	Fashion's Optimist of Warrook
106	Keepsake 4th of Warenda	T. S. Dowson ..	Jersey	4,826	4·87	234·99	Kinnor of Banyule
107	Starleigh of Tooravale ..	J. E. Handbury & Sons	,,	3,462	6·78	234·57	Robert of Melrose
108	Mabel of Jersey Vale ..	Mrs. L. Orchard ..	,,	4,719	4·93	232·50	Choice 2nd of Tarnpirr
109	Joyce of Jersey Vale ..	Mrs. L. Orchard ..	,,	4,130	5·60	231·46	Choice 2nd of Tarnpirr
110	Rita of Woolamai Park	G. A. Kent ..	Ayrshire	5,012	4·57	228·84	Bonnie Boy of Woolamai Park
111	Mirth of Holly Green ..	H. L. Webb ..	,,	5,483	4·11	225·46	Algie of Holly Green
112	Hope 2nd of Peri ..	J. Phillips ..	Jersey	4,634	4·84	224·26	Carnation's Bosun
113	Thirimere Pearlie ..	D. Harker ..	Ayrshire	5,168	4·20	217·06	Majesty of Fernhill
114	Eremophylla of Springhurst	J. D. Read ..	Jersey	3,273	6·58	215·26	Starbright's Prince of Glen Iris
115	Carracoorte Lucy 8th ..	W. Henderson ..	Ayrshire	4,574	4·67	213·58	Donald of Sparrovale
116	Pansy of the Valley ..	Mrs. L. Lowing ..	Jersey	4,531	4·69	212·39	Foxglove of the Valley
117	Yarra View Meadow Sweet	Mesdames McWhae and Silvester	Guernsey	4,160	5·00	207·81	Milton's Director
118	Scotswood Queen of Scots	A. H. Schier ..	Ayrshire	4,776	4·30	205·52	Bellboy of Oakbank
119	Gem of Clover Flat ..	A. C. Willis ..	Jersey	4,594	4·43	203·58	Vanilla 2nd of Tavistock
120	Iris 7th of Carracoorte	W. Henderson ..	Ayrshire	4,620	4·38	202·15	Gertie's Producer of Carracoorte
121	Glengowrie Adella ..	A. T. N. Facey ..	,,	5,060	3·99	201·97	Allison of Blair Athol
122	Carracoorte Blanche 3rd	W. Henderson ..	,,	4,650	4·14	192·35	Donald of Sparrovale
123	Burnbank Manor Kroons	C. L. V. Sharp ..	Friesian	5,429	3·49	189·41	Winlaton De Kol Kroons
124	Lassie of Blackwood Valley	J. Cook	Jersey	3,584	5·28	189·33	Woodruff Admiral
125	Fulham Toddler ..	Cockbill Bros. ..	Ayrshire	4,553	4·05	184·49	His Majesty of Wethersdane
126	Coilsfield Favourite ..	A. H. Schier ..	,,	4,114	4·47	183·88	Coilsfield Prince
127	Lantana of Longerenong	Longerenong Agricultural College	,,	4,395	4·17	183·42	Aristocrat of Woongarra
128	Alma of Roseleigh ..	G. Gange ..	,,	4,027	4·23	170·33	Eric of Roseleigh
129	Scotswood Adella's Pearl	A. H. Schier ..	,,	4,185	3·73	156·03	Scotswood Principal Boy
130	Roseneath Agnes ..	R. Goodman ..	,,	3,524	4·29	151·04	Triumph of Burnside
131	Doreen of Glen Leigh ..	J. E. Chadderton ..	Jersey	2,880	5·06	145·77	Master Moll of Banyule
132	Tregorland Inez ..	J. F. Tuckey ..	Ayrshire	2,070	4·47	92·46	Larus of Gowrie Park
133	Burnbank Lapolka Alcartra	J. T. Tweddle ..	Friesian	1,755	4·60	80·71	King Alcartra Netherland

JUNIOR 2 YEAR OLD. (Under 2½ Years.) 200 lb. Standard.

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
1	Bolobek Trixie ..	O. J. Syme ..	Friesian	14,612	3·73	545·45	Netherlands' Pietertje Bainfield
2	Pearl 2nd of Mendip ..	L. W. Thompson ..	Jersey	9,277	5·27	489·33	Relbia Sid
3	Peggy 3rd of Belgonia ..	P. J. Maloney ..	,,	9,120	4·90	446·82	Bright Twylish of Belgonia
4	Grangelea Daffodil 2nd	A. A. Broad ..	,,	7,145	6·07	433·76	Mistletoe's 2nd V.C. of Tarnpirr
5	Buttercup of Belgonia ..	P. J. Maloney ..	,,	7,863	5·49	431·54	Bright Twylish of Belgonia
6	Pearl of Green View ..	H. A. Schier ..	,,	6,958	6·00	417·34	Perree's Spark of Glen Iris
7	Gazelle 5th of Warenda	T. Mesley ..	,,	7,019	5·89	413·29	Kewpie of Warenda
8	Milklass 3rd of Belgonia	P. J. Maloney ..	,,	7,701	5·18	398·88	Bright Twylish of Belgonia
9	Blossom 4th of Belgonia	P. J. Maloney ..	,,	8,648	4·60	397·66	Prince of Belgonia
10	Blossom 3rd of Belgonia	P. J. Maloney ..	,,	8,580	4·62	396·65	Bright Twylish of Belgonia
11	Silvermine 33rd of Banyule	C. G. Lyon ..	,,	8,042	4·87	391·29	Wotton Airman
12	Silver Belle 2nd of Glenmoor	G. and W. Smith ..	,,	7,951	4·81	382·82	Peerless 19th's Prince of Melrose
13	Burnbank Pietertje Bainfield	A. E. Enders ..	Friesian	11,708	3·26	381·67	Burnbank Pietertje Delhurst
14	Fairy 2nd of Willow Park	W. K. Atkinson ..	Milking Shorthorn	9,077	4·20	381·62	Havelock of Darbalara
15	Fancy Starbright of Brucevale	P. Chirnside ..	Jersey	6,179	6·18	381·61	Werribee Fancy Madeira
16	Wild Rose of the Valley	Mrs. E. M. Lennie	,,	7,019	5·33	374·24	Foxglove of the Valley
17	Noble's Beauty of Avalon	F. Austin ..	,,	6,606	5·65	373·09	Noble of Avalon
18	Burnside Rosemary ..	Miss H. E. Raleigh	,,	6,315	5·83	368·02	Retford Lord Twylish
19	Gaiety Girl 2nd of Mendip	L. W. Thompson ..	,,	6,000	6·06	363·70	Relbia Sid
20	Dunallister Vanilla 2nd	J. Thompson ..	,,	6,237	5·73	360·56	Starbright's Duke of Glen Iris
21	Kyora Golden Jazz ..	R. Poyner ..	,,	6,629	5·43	359·81	Foch of Jerrara
22	Lodestone of Springhurst	J. D. Read ..	,,	6,291	5·68	357·21	Alloy of Banyule
23	Janette of Green View	H. A. Schier ..	,,	6,231	5·71	355·81	Peeree's Spark of Glen Iris
24	Lily 2nd of Latrobe ..	E. H. Howlett ..	,,	6,374	5·56	354·31	Duke of Banyule
25	Rarity 2nd of Edmonton	H. Cowling ..	,,	6,327	5·58	353·21	Big Chief of Glen Iris
26	Kirsty 16th of Jerseyholm	T. Harvey ..	,,	6,191	5·66	350·68	Handsome Boy 5th of Melrose
27	Violet 2nd of Ballara ..	F. Trevaskis ..	,,	6,474	5·39	349·05	Werribee's Madeira Masterpiece
28	Broiga of Aberdour ..	Simpson and Son ..	,,	6,018	5·79	348·74	Lord H. of Bruce vale
29	Princess of Castlemaddie	H. V. MacLeod ..	,,	6,807	5·12	348·68	King's Bounty of Somerville
30	Studleigh Dianthus ..	D. Cameron and Son	,,	5,864	5·91	346·75	Starbright's Prince of Glen Iris
31	Mistletoe of Swansea ..	J. Clyne ..	,,	6,539	5·22	341·37	Prince of Belgonia
32	Flora of Parkview ..	J. McDougall ..	,,	6,237	5·42	338·33	Jock of Parkview
33	Felicity 4th of Clarendon Eyre	J. V. M. Wood ..	,,	6,258	5·41	338·26	Eminent V.C.
34	Grant's Duchess 2nd of Merivale	C. Wade	,,	6,614	5·10	337·34	Carmen's Grant of Leura
35	Merline's Girl of Merivale	C. Wade	,,	5,894	5·71	336·28	Merlin's Twylish of Colac
36	Queen of Leven Brae ..	T. R. Findlay ..	,,	5,721	5·86	335·15	Twylish Fox of Colac
37	Lady Monica 20th of King's Vale	H. V. MacLeod ..	,,	6,053	5·52	334·36	Rosella's Thorn of King's Vale
38	Goldfinch 3rd of Grangelea	A. A. Broad ..	,,	5,358	6·23	333·99	Mistletoe's 2nd V.C. of Tarnpirr
39	Verbena 8th of Brookfield	W. Parbury ..	,,	6,450	5·14	331·75	Wyandotte's Star of Werribee
40	Kyora Creamy 3rd ..	Miss S. L. Robinson	,,	6,648	4·99	331·61	Foch of Jerrara
41	Warwick Beauty ..	C. S. Walker ..	,,	6,866	4·81	330·07	Chevolet of Banyule
42	Queen of Woorayl ..	Leongatha High School	,,	4,881	6·75	329·63	Cream Duke of Glen Iris
43	Mythic of Beverley ..	W. H. Atherton ..	,,	6,176	5·34	329·62	Rosella's Lad of King's Vale
44	St. Alban's Lily's Sylvia	A. J. Eldridge ..	Friesian	8,910	3·70	329·04	Eco's Sylv. King Pontiac
45	Rosebud 3rd of Grangelea	A. A. Broad ..	Jersey	6,663	4·93	328·52	Golden Twylish
46	Rose of King's Vale ..	J. Anderson, junr...	,,	5,172	6·35	328·45	Jessemia's Imperial 5th of King's Vale
47	Grangelea Pansy 2nd ..	A. A. Broad ..	,,	5,654	5·75	325·04	Mistletoe's 2nd V.C. of Tarnpirr
48	Greenvale Ideal Paxton	J. Piattfuss ..	Friesian	9,188	3·53	324·50	Lydholme Segis Paxton
49	Flower 3rd of Ballara ..	F. Trevaskis ..	Jersey	6,758	4·80	324·44	Werribee Madeira Cream's Masterpiece
50	Countess of Woorayl ..	Leongatha High School	,,	5,332	6·08	324·05	Cream Duke of Glen Iris
51	Ranee of Aberdour ..	J. V. M. Wood ..	,,	5,168	6·27	323·93	Lord 2nd of Bruce vale
52	May 2nd of Leura ..	W. Axford ..	,,	6,366	5·09	323·90	Grant of Melrose

JUNIOR 2 YEAR OLD. (UNDER 2½ YEARS.) 200 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
53	Noble's Pansy of Avalon	F. Austin ..	Jersey	5,465	5·91	323·22	Noble of Avalon
54	Grangelea Prim ..	A. A. Broad ..	,,	6,162	5·23	322·45	Mistletoe's 2nd V.C. of Tarnpirr
55	Noble's Queen 2nd of Avalon	F. Austin ..	,,	6,654	4·83	321·56	Noble of Avalon
56	Fern of Jersey Vale ..	Mrs. L. Lowing ..	,,	6,164	5·21	321·44	Choice of Tarnpirr
57	Jessie of Toora Vale ..	J. E. Handbury and Sons	,,	5,460	5·87	320·60	Welkin of Melrose
58	Velveteen 10th of Banyule	C. G. Lyon ..	,,	6,867	4·66	319·72	Sapper of Banyule
59	Miss Skim of Blackwood Grove	A. E. Ellis ..	,,	6,656	4·80	319·70	Titus of Blackwood Grove
60	Le Hurst Silk Stockings 3rd	S. H. Masters ..	,,	5,421	5·88	318·82	Consul of Lea Hurst
61	Victoria Magneto ..	Department of Agriculture, Werribee	Red Poll	7,248	4·40	318·72	Vic. Bit-o-bacca
62	King's Vale Brunette 21st	S. H. Masters ..	Jersey	6,456	4·92	317·73	Linda's 5th V.C. of King's Vale
63	Sparkle 10th of Jerseyholm	A. C. Overend ..	,,	5,865	5·39	316·23	Marge 2nd's Hero of Jerseyholm
64	Heather 3rd of Springhurst	J. D. Read ..	,,	6,927	4·56	315·61	Alloy of Banyule
65	Velveteen 9th of Banyule	C. G. Lyon ..	,,	6,651	4·73	314·28	Wotton Airman
66	Lassie Fowler of Toora Vale	J. E. Handbury and Sons	,,	5,156	6·08	313·45	Welkin of Melrose
67	Ranunculus 2nd of Springhurst	J. D. Read ..	,,	5,664	5·49	311·17	Othman of Springhurst
68	St. Alban's Ina Sylvia ..	I. Padgett ..	Friesian	8,445	3·68	310·68	Echo Sylv. King Pontiac
69	Malwand Thyme ..	G. Esler ..	Jersey	5,910	5·26	310·62	Prince of Belgonia
70	Fulham Velox ..	Cockbill Bros. ..	Ayrshire	7,091	4·38	310·42	Fulham Future
71	Mercedes' Beauty of Avalon	F. Austin ..	Jersey	5,434	5·70	309·51	Mercedes' Chief of Glen Iris
72	Taranah Honeybee ..	C. W. Macauley ..	,,	5,385	5·75	309·51	Lily's 6th Son of Melrose
73	Lucerne Vale Betsy ..	N. C. De La Rue ..	,,	5,912	5·23	309·29	Duke of Wyndarra
74	Burnbank Alcartra Girl	A. E. Enders ..	Friesian	9,161	3·37	308·52	King Alcartra Netherland
75	Starbright of Colac ..	C. Wade	Jersey	5,798	5·32	308·42	Bright Spark of Colac
76	Bluebell of Ellendale ..	Quigley and Bennett	,,	5,663	5·43	307·75	Handsome Boy 5th of Melrose
77	Iolanthe of Devon Park	J. V. M. Wood ..	,,	4,953	6·21	307·66	Stern of Melrose
78	Fuchsia 4th of Edmonton	H. Cowling ..	,,	5,426	5·67	307·56	Rarius of Edmonton
79	Masterpiece's Dulcie of Leven Brae	T. R. Findlay ..	,,	6,461	4·76	307·49	Werribee's Fancy's Masterpiece
80	Iopmea 2nd of Swansea	J. Clyne	,,	6,000	5·12	307·12	Prince of Belgonia
81	Lal Grey of Leven Brae	T. R. Findlay ..	,,	6,320	4·85	306·86	Twylish Fox of Colac
82	Lady Gold of Murta ..	T. Mesley ..	,,	5,145	5·96	306·52	Redford Deer's Noble
83	Starleigh 2nd of Toora Vale	J. E. Handbury and Sons	,,	5,174	5·85	302·60	Welkin of Melrose
84	Tomato of Springhurst..	J. D. Read ..	,,	6,143	4·91	301·55	Alloy of Banyule
85	Pansy 2nd of Jersey Vale	Mrs. L. Lowing ..	,,	5,613	5·37	301·50	Choice 2nd of Tarnpirr
86	Nardoo of Springhurst	J. D. Read ..	,,	5,463	5·51	300·77	Starbright's Prince of Glen Iris
87	Dorothy of the Wattles	N. H. Enders ..	,,	5,708	5·26	300·01	Duke of the Wattles
88	Daisy of Avalon ..	F. Austin ..	,,	4,728	6·34	299·93	Brilliant Dawn of Linga Longa
89	Castle Hill Empress ..	J. Plattfuss ..	Friesian	8,414	3·56	299·24	Rockbank Prince
90	Mercedes' Buttercup 6th of Avalon	F. Austin ..	Jersey	6,320	4·73	299·23	Mercedes' Chief of Glen Iris
91	Yorkshire Oakwood Togo	J. Plattfuss ..	Friesian	8,618	3·46	297·77	Dominion Oakwood
92	Yarra View Maud ..	Mesdames McWhae and Silvester	Guernsey	5,241	5·65	295·95	Old Gold
93	Seaweed of Hazeldale ..	A. J. Mapleson ..	Jersey	5,852	5·05	295·62	Dinkum of Banyule
94	Aveley Norma ..	Aveley Stud Farm Pty. Ltd.	,,	5,601	5·27	295·25	Werribee's Fancy's Butter King
95	Clarendon Eyre Tess ..	J. V. M. Wood ..	,,	4,800	6·13	294·33	Sparkle's Chief
96	Princess 5th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,633	4·42	293·33	Reliance of Willow Park
97	Chillie II. of Springhurst	J. D. Read ..	Jersey	6,027	4·86	293·15	Othman of Springhurst
98	Canary 19th of King's Vale	J. Anderson, junr...	,,	5,691	5·11	290·61	Rosella's Thorn of King's Vale
99	Bonnie Jean of Parkview	J. McDougall ..	,,	5,871	4·94	289·74	Cream Lad of Fairview
100	Jessie's Pride of Hazeldale	A. J. Mapleson ..	,,	4,889	5·92	289·57	Dinkum of Banyule
101	Canary of Mendip ..	L. W. Thompson ..	,,	4,716	6·13	289·22	Relbia Sid
102	Dawn of Parkview ..	J. McDougall ..	,,	6,546	4·41	288·86	Cream Lad of Fair View
103	Victoria Warplane ..	Department of Agriculture, Werribee	Red Poll	5,424	5·31	288·10	Belligerent
104	Kirsty 19th of Jerseyholm	D. Cameron and Sons	Jersey	4,848	5·91	286·72	Handsome Boy 5th of Melrose

JUNIOR 2 YEAR OLD. (UNDER 2½ YEARS.) 200 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
105	Snapdragon of Springhurst	J. D. Read ..	Jersey	6,078	4·72	286·72	Alloy of Banyule
106	Fulham Flitter ..	Cockbill Bros. ..	Ayrshire	5,908	4·85	286·50	The Laird of Sparrovale
107	Koorcena Minerva ..	W. H. Hurrey ..	Jersey	5,677	5·05	286·44	Lord 3rd of Bruce vale
108	Lizzie Birt of the Wattles	N. H. Enders ..	,,	5,139	5·57	286·43	Prince of Wales of Hillcrest
109	Victoria Traybit ..	Department of Agriculture, Werribee	Red Poll	6,735	4·23	285·01	Victoria Bit-o-bacca
110	Little Queen of Blackwood Valley	W. H. Hurrey ..	Jersey	5,120	5·56	284·87	Retford Mourier Lad
111	Rydon's Gem ..	G. and W. Smith ..	,,	6,304	4·50	283·58	Peerless 19th's Prince of Melrose
112	Aveley Trinket 2nd ..	Aveley Stud Farm Pty. Ltd.	,,	5,586	5·05	282·29	Marc Antony of Aveley
113	Tiny 3rd of Beverley ..	W. H. Atherton ..	,,	5,565	5·06	281·81	Rosella's Lad of King's Vale
114	Zoe 9th of Melrose ..	W. Woodmason ..	,,	4,663	6·04	281·73	Sunset of Melrose
115	Silvermine 34th of Banyule	W. S. Richardson ..	,,	5,129	5·48	281·31	Matador of Banyule
116	Betsy of Aberdour ..	Simpson and Son ..	,,	5,214	5·39	281·29	Lord 2nd of Bruce vale
117	Longerenong Wattle ..	Longerenong Agricultural College	Ayrshire	6,193	4·53	280·83	Aristocrat of Woongarra
118	Yarra View Dewdrop 2nd	Mesdames McWhae and Silvester	Guernsey	6,021	4·64	279·77	Old Gold
119	Greenvale Mabel 2nd ..	J. Plattfuss ..	Friesian	8,295	3·36	278·35	Lydholme Segis Paxton
120	Stella Twylish of Goronga Farm	Miss H. E. Raleigh	Jersey	5,432	5·10	277·19	Double Twylish of Elouera
121	Betty 6th of Brookfield	W. Parbury ..	,,	5,192	5·31	275·83	Werribee Wyandotte's Star
122	Kyora Fancy's Vevleteen	S. L. Robinson ..	,,	5,000	5·50	274·75	Werribee Wyandotte's Fancy
123	Annette of Leura ..	W. A. Axford ..	,,	5,382	5·10	274·57	Grant of Melrose
124	Trixie of Enterprise ..	S. Bolton ..	,,	5,540	4·95	274·36	Royal Gem of Somerville
125	Linda 69th of King's Vale	J. Anderson, junr...	,,	5,225	5·25	274·31	Rosella's Thorn of King's Vale
126	Petaline of Paisley ..	J. Clyne ..	,,	5,934	4·62	274·07	Star of Somerville
127	Olive Dale of Joybelle ..	A. T. N. Facey ..	Ayrshire	6,566	4·17	274·06	Lochiel of Ladybank
128	Lyonsia of Springhurst..	J. D. Read ..	Jersey	4,687	5·85	274·01	Starbright's Prince of Glen Iris
129	Kyora Duke's Needle II.	H. V. MacLeod ..	,,	4,607	5·94	273·84	Foch of Jerrara
130	Fulham Model ..	Cockbill Bros. ..	Ayrshire	6,606	4·87	273·10	The Laird of Sparrovale
131	Lady Elector 2nd of Leura	W. A. Axford ..	Jersey	5,596	4·87	272·80	First Choice of Leura
132	Coral Sand of Glen Valley	J. A. Huffer ..	,,	5,792	4·70	272·25	Perree's Lad of Glen Valley
133	Dolichos of Cooel ..	R. J. Henry ..	,,	4,848	5·61	271·98	Peerless 2nd's Eclipse of Meadowvale
134	Bolobek Moss Rose ..	O. J. Syme ..	Friesian	7,544	3·60	271·34	Matador Highland Segis
135	Princess of the Wattles	N. H. Enders ..	Jersey	5,388	5·03	271·14	Choice Prince of Belgonia
136	Rosie of Enterprise ..	S. Bolton ..	,,	5,385	5·03	270·97	Royal Gem of Somerville
137	Lassie of Murta ..	T. Mesley ..	,,	5,795	4·67	270·78	King of Murta
138	Trumpet Daffodil of Goronga Farm	H. E. Raleigh ..	,,	4,538	5·93	269·29	Trumps of Banyule
139	Gowrie Park Alvie ..	Mrs. H. Burnett ..	Ayrshire	6,638	4·05	268·74	Scottish Hero of Gowrie Park
140	Jonquil II. of Springhurst	J. D. Read ..	Jersey	4,494	5·97	268·47	Alloy of Banyule
141	Cornflower 2nd of Castlemaddie	H. V. MacLeod ..	,,	4,061	6·60	268·01	King's Bounty of Somerville
142	Burnbank Pietertje Girl	J. Plattfuss ..	Friesian	7,962	3·35	266·74	Burnbank Delhurst Pietertje
143	Merella 2nd of the Valley	Mrs. E. M. Lennie	Jersey	4,962	5·37	266·65	Stargazer of the Valley
144	Sybil's Cunning Mouse	J. V. M. Wood ..	,,	5,448	4·89	266·15	Speedwell's Volunteer
145	Linnacre's V.C. of Boorne	H. Littledike ..	,,	5,211	5·09	265·34	Arcadia's V.C. of Wooringa
146	Twilight of Glen Valley	H. W. King ..	,,	5,496	4·81	264·23	Jewel 3rd's Morocco Fox
147	Elaine of Leura ..	W. A. Axford ..	,,	5,250	5·02	263·60	Grant of Melrose
148	Lassie of Toora Vale ..	J. E. Handbury and Sons	,,	4,526	5·82	263·43	Welkin of Melrose
149	Linda 68th of King's Vale	J. Anderson, junr...	,,	4,533	5·81	263·17	Jessemia's Imperial 5th of King's Vale
150	Fanny of Rosstrevor ..	T. Knowles ..	Ayrshire	6,732	3·91	262·94	Oban of Fernhill
151	Greenvale Julia ..	H. Allez ..	Friesian	5,925	4·41	262·88	Lyd-Holme Segis Paxton
152	Malwand Blossom 2nd	G. Esler ..	Jersey	5,918	4·42	261·46	Duke of Belgonia
153	Plum of Invergorden ..	T. Knowles ..	Ayrshire	5,603	4·67	261·39	Holly's King of Retreat
154	Beauty 2nd of Leura ..	W. A. Axford ..	Jersey	4,770	5·47	261·05	Grant of Melrose
155	Peggy of Bon Accord ..	A. C. Overend ..	,,	4,247	6·13	260·41	Picador of Bon Accord
156	Dunallster Mirth Maker	C. W. Harris ..	,,	4,572	5·68	259·65	Starbright Duke of Glen Iris
157	Opal of Hazeldale ..	A. J. Mapleson ..	,,	5,036	5·14	259·06	Dinkum of Banyule
158	Queenie 10th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,051	4·28	258·83	Reliance of Willow Park
159	Narcissa of Sparrovale	Geelong Harbour Trust	Ayrshire	5,758	4·49	258·66	Alpha of Sparrovale
160	Mirth of Wattle Vale ..	D. E. Cook ..	Jersey	4,598	5·62	258·56	Dawn of Warenda

JUNIOR 2 YEAR OLD. (UNDER 2½ YEARS.) 200 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
161	Aveley Emmaline ..	Aveley Stud Farm Pty. Ltd.	Jersey	4,971	5·20	258·28	Werribee Fancy Butter King
162	Mab of Sparrovale ..	Geelong Harbour Trust	Ayrshire	5,234	4·93	258·06	Reward of Sparrovale
163	Victoria Oakbell ..	Department of Agriculture, Werribee	Friesian	7,199	3·57	256·68	Dominion Oakdale
164	Thelma of Hyde Park	Telford Bros. ..	Ayrshire	5,449	4·71	256·68	Bell Boy of Ben Kell
165	Roseleigh Rosebloom ..	G. Gange ..	,,	6,289	4·08	256·54	Oakbank Reply
166	Bonnie of Blackwood Grove	A. E. Ellis ..	Jersey	4,782	5·35	255·65	Titus of Blackwood Grove
167	Ettie Bell of Waratta ..	Wangaratta High School	,,	4,973	5·13	255·35	Jubilee Lifelight
168	Lotina 2nd of Whare Koa	W. H. Hurrey ..	,,	4,340	5·88	255·12	Retford Mourier Lad
169	Wompini Daisy ..	Simpson and Son ..	,,	4,940	5·15	254·31	Eminent V.C.
170	Heather Bell of Aberdour	Simpson and Son ..	,,	4,890	5·20	254·28	Lord II. of Bruce Vale
171	Virginia 3rd of Springhurst	A. Evans ..	,,	4,673	5·44	254·27	Alloy of Banyule
172	Roseleigh Wisteria ..	G. Gange ..	Ayrshire	6,326	4·02	254·01	Oakbank Reply
173	Fernhill Shirley ..	T. Knowles ..	,,	5,625	4·51	253·93	Merry Boy of Glen Locksley
174	Trixie of Taranah ..	C. W. Macauley ..	Jersey	4,380	5·79	253·47	Lily's 6th Son of Melrose
175	Roseleigh Azelia ..	G. Gange ..	Ayrshire	5,754	4·40	252·92	Oakbank Reply
176	Lucerne Vale Queenie ..	N. C. De La Rue ..	Jersey	4,954	5·10	252·56	Lauder of Colac
177	Andante of Banyule ..	E. H. Howlett ..	,,	4,616	5·46	251·94	Matador of Banyule
178	Rosella 12th of King's Vale	J. Anderson, junr...	,,	4,278	5·88	251·41	Rosella's Thorn of King's Vale
179	Vanilla 25th of Melrose	W. Woodmason ..	,,	4,346	5·77	250·92	Sunset of Melrose
180	Victoria Vista ..	Department of Agriculture, Werribee	Red Poll	5,651	4·42	249·73	Victoria Bit-o-bacca
181	Elsie Bell of Waratta ..	Wangaratta High School	Jersey	4,655	5·34	248·63	Jubilee Lifelight
182	Sparrowvale Scottish Daisy	Geelong Harbour Trust	Ayrshire	4,944	5·03	248·56	Scottish Fame of Gowrie Park
183	Annie of Enterprise ..	S. Bolton ..	Jersey	5,049	4·92	248·37	Royal Gem of Somerville
184	Fernhill Rosina ..	T. Knowles ..	Ayrshire	5,400	4·60	248·37	Merry Boy of Glen Locksley
185	Caroline of Riverbank ..	T. S. Dowson ..	Jersey	3,675	6·74	247·67	Daphne's Peer of Queen's Vale
186	Violet of Melwood ..	E. Hall	,,	4,286	5·76	246·96	Prince 2nd of Belgonia
187	Duchess 7th of Goulburn	C. W. Harris ..	,,	4,586	5·38	246·86	Twist of Banyule
188	Silvermine 2nd of Latrobe	E. H. Howlett ..	,,	4,563	5·41	246·67	Duke of Banyule
189	Quality 2nd of Narrawong	R. Purnell ..	,,	3,924	6·28	246·58	Garantie's Chief of Narrawong
190	Avalon Mercedes' Pansy	G. A. McNabb ..	,,	4,413	5·59	246·56	Mercedes' Chief of Glen Iris
191	Canary 7th of Goulburn	C. N. Runciman ..	,,	3,850	6·40	246·40	Rufus of Melrose
192	Princess 3rd of Latrobe	E. H. Howlett ..	,,	5,138	4·77	245·01	Moleskin Chief of Banyule
193	Maiden of the Valley ..	Mrs. E. M. Lennie	,,	5,081	4·81	244·64	Foxglove of the Valley
194	Ruby 2nd of Willow Park	W. K. Atkinson ..	Milking Shorthorn	6,231	3·90	242·86	Reliance of Willow Park
195	Fulham Torture ..	Cockbill Bros. ..	Ayrshire	6,041	4·01	242·22	The Laird of Sparrovale
196	Bolobek Berenice ..	O. J. Syme ..	Friesian	8,525	2·83	241·63	Matador Highland Segis
197	Lady Joan of Franklin Park	W. A. Sandles ..	Jersey	4,167	5·79	241·11	Dolly's Twylish of Tarnpirr
198	Victoria Jordan ..	Department of Agriculture, Werribee	Red Poll	5,558	4·34	240·99	Victoria Bit-o-bacca
199	Kyora Lady Montrose ..	Miss S. L. Robinson	Jersey	4,572	5·26	240·32	Kyora Anthem's Duke
200	Olive Dale Birdy ..	A. T. N. Facey ..	Ayrshire	6,713	3·58	240·07	Olive Dale Bright Light
201	Aster of Jersey Vale ..	Mrs. L. Lowing ..	Jersey	4,628	5·18	239·94	Choice 2nd of Tarnpirr
202	Olive Dale Bertha ..	A. T. N. Facey ..	Ayrshire	6,309	3·78	238·54	Chudleigh of Brook Hill
203	Victoria Fortress ..	Department of Agriculture, Werribee	Red Poll	5,085	4·69	238·43	Belligerent
204	Moana of Woorayl ..	Leongatha High School	Jersey	3,986	5·96	237·60	Cream Duke of Glen Iris
205	Victoria La Barco ..	Department of Agriculture, Werribee	Red Poll	5,489	4·33	237·54	Victoria Bit-o-bacca
206	Roseleigh Adela ..	G. Gange ..	Ayrshire	5,807	4·09	237·46	Oakbank Reply
207	Scottish Flower of Sparrovale	Geelong Harbour Trust	,,	4,958	4·79	237·45	Scottish Fame of Gowrie Park
208	Mercedes' Buttercup 5th of Avalon	F. Austin ..	Jersey	4,805	4·94	237·25	Mercedes' Chief of Glen Iris
209	Peggy of the Elms ..	Miss C. E. McClelland	,,	4,789	4·95	237·03	Relbia's Nap of Austral Park
210	Greenvale Mona 2nd ..	J. Plattfuss ..	Friesian	6,644	3·56	236·83	Greenvale Oakwood Patch
211	Lady Grey of Colac ..	T. R. Findlay ..	Jersey	4,176	5·66	236·23	Viscount of Melrose
212	Romany Rye of Aberdour	Simpson and Son ..	,,	4,746	4·98	236·18	Lord II. of Brucevale
213	Beauty 9th of Brookfield	W. Parbury ..	,,	5,255	4·49	236·09	Werribee Wyandotte Star
214	Sutton Lea Latricia ..	W. S. Richardson ..	,,	4,320	5·45	235·41	The Pearl of Upperlong

JUNIOR 2 YEAR OLD. (UNDER 2½ YEARS.) 200 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
215	Avonview Muriel ..	A. Fixter ..	Jersey	4,940	4·76	235·29	Emperor
216	Idol of Springdale ..	A. Wallace ..	Ayrshire	6,166	3·80	234·32	Sunrise of Ellerslie
217	Troed-Yr-Rhin Carlad ..	Mrs. L. Lowing ..	Jersey	4,764	4·91	234·06	Butterlad of Belgonia
218	Kyora Foch's Anthem	Miss S. L. Robinson	,,	4,280	5·47	234·01	Foch of Jerrara
219	Brunette 19th of King's Vale	J. Anderson, junr...	,,	4,479	5·22	234·00	Rosella's Thorn of King's Vale
220	Woolamai Mildred ..	G. A. Kent ..	Ayrshire	6,036	3·88	233·97	Statesman of Gowrie Park
221	Duchess 3rd of Glen Leigh	J. E. Chadderton ..	Jersey	5,240	4·44	232·69	Master Moll of Banyule
222	Chrysanthemum of Springhurst	J. D. Read ..	,,	4,158	5·59	232·35	Starbright's Prince of Glen Iris
223	Verbena 9th of Brookfield	W. Parbury ..	,,	4,782	4·84	231·64	Werribee Wyandotte Star
224	Romance of Holly Green	H. L. Webb ..	Ayrshire	5,594	4·14	231·60	Headlight of Holly Green
225	Twylish's Princess of Leven Brae	T. R. Findlay ..	Jersey	5,579	4·14	231·22	Twylish's Fox of Colac
226	Moonlight of Hazeldale	A. J. Mapleson ..	,,	4,725	4·89	230·93	Dinkum of Banyule
227	Clarendon Eyre Princess Ida	J. V. M. Wood ..	,,	4,073	5·67	230·90	Eminent V.C.
228	Longerenong Tecoma ..	Longerenong Agricultutral College	Ayrshire	4,079	5·65	230·42	Aristocrat of Woongarra
229	Mermaid 3rd of Woolamai Park	G. Kent	,,	4,767	4·83	230·27	Bonnie Boy of Woolamai Park
230	Werribee Island's Sultana	D. Cameron and Sons	Jersey	4,044	5·69	230·15	Werribee Starbright King 2nd
231	Rosalind 11th of Brookfield	W. Parbury ..	,,	4,691	4·90	229·78	Werribee Wyandotte Star
232	Fuchsia 2nd of Swansea	J. Clyne	,,	4,051	5·67	229·75	Prince of Belgonia
233	Holly Green Actress ..	H. L. Webb ..	Ayrshire	6,275	3·65	229·32	Headlight of Holly Green
234	Twylish's Perree of Leven Brae	T. R. Findlay ..	Jersey	4,503	5·09	229·18	Twylish's Fox of Colac
235	Sweet Lily of the Valley	Mrs. L. Lowing ..	,,	5,024	4·55	228·38	Sweet Fox 2nd of the Valley
236	Rosebud 6th of Brookfield	W. Parbury ..	,,	4,798	4·75	228·13	Werribee Wyandotte Star
237	Staghorn Lotus ..	F. Bidgood ..	,,	4,578	4·97	227·70	Lily's King of Staghorn
238	Burnside Mayflower 2nd	S. K. Webb ..	,,	4,398	5·16	226·86	Burnside Symbol
239	Fuchsia 7th of St. Albans	Miss H. E. Raleigh	,,	4,442	5·11	226·85	Twylish Expectation of Banyule
240	Nellie of Jersey Vale ..	Mrs. L. Lowing ..	Jersey	4,542	4·97	225·81	Choice 2nd of Tarnpirr
241	Queenie 13th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	5,736	3·93	225·56	Havelock of Darbalara
242	Hakea of Springhurst ..	J. D. Read ..	Jersey	5,091	4·42	225·27	Alloy of Banyule
243	Cathcart Blanche ..	A. W. Gorman ..	Ayrshire	4,961	4·53	224·90	Poppy's Avdance of Ben Kell
244	Clover 5th of Springhurst	J. D. Read ..	Jersey	4,335	5·18	224·35	Alloy of Banyule
245	Lady Buttercup of Elimatta	H. Dettmann ..	,,	4,733	4·73	223·90	Neyland Merry Boy
246	Gipps Guinevere ..	Warragul High School	Red Poll	5,329	4·20	223·70	Victoria King Merlin
247	Clarendon Eyre Madam Butterfly	J. V. M. Wood ..	Jersey	4,059	5·51	223·63	Butter Chief of Sunnyford
248	Melrose Lassie Fowler 15th	W. Woodmason ..	,,	3,707	5·97	221·48	Sunset of Melrose
249	Ena Bell of Waratta ..	Wangaratta High School	,,	4,296	5·16	221·47	Jubilee Lifelight
250	Lily of Riverbank ..	T. S. Dowson ..	,,	4,022	5·51	221·46	Kinnor of Banyule
251	Gladfield Pluperfect Posch	H. Allez	Friesian	5,825	3·79	220·98	Bolobek Colin
252	Trixie of Welbourne ..	Geo. Rowe ..	Jersey	3,599	6·13	220·77	Sparklight's Duke of Glen Iris
253	Cloverlea Princess Twylish	A. Balsillie ..	,,	5,044	4·37	220·62	Princess of Glenwood
254	Roseleigh Beauty ..	G. Gange ..	Ayrshire	5,033	4·38	220·51	Oakbank Reply
255	Viola 8th of Carracoorte	W. Henderson ..	,,	4,614	4·78	220·47	Maxwell of Sparrovale
256	Lucerne Vale Lily ..	N. C. De La Rue ..	Jersey	4,170	5·28	220·07	Duke of Wyndarra
257	Vanilla 2nd of Peri ..	J. Phillips ..	,,	3,771	5·83	219·97	Peerless Eclipse of Kingsvale
258	Queenie 9th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	5,079	4·33	219·73	Count of Willow Park
259	Lady Daphne of Ben Kell	R. Ralston ..	Ayrshire	5,216	4·17	217·65	Patronius of Ben Kell
260	Mayflower of Springhurst	J. D. Read ..	Jersey	3,825	5·69	217·64	Othman of Springhurst
261	Bona Vista Cloverleaf ..	T. Knowles ..	Ayrshire	4,616	4·71	217·47	Bona Vista Majesty
262	Olive Dale Shirley ..	A. T. N. Facey ..	,,	6,116	3·55	217·38	Sunshine of Olive Dale
263	Patricia of Jersey Vale..	Mrs. L. Lowing ..	Jersey	3,844	5·63	216·79	Choice 2nd of Tarnpirr
264	Empress 8th of Jerseyholm	T. Harvey ..	,,	4,406	4·91	216·36	Handsome Boy 5th of Melrose

JUNIOR 2 YEAR OLD. (UNDER 2½ YEARS.) 200 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
265	Lassie's Pride of Carney Dell	A. C. Willis ..	Jersey	4,643	4·65	216·08	Gold Lad of Clover Flat
266	Rosecleigh Rosary ..	G. Gange ..	Ayrshire	5,063	4·26	215·85	Oakbank Reply
267	Victoria Kiwi ..	Department of Agriculture, Werribee	Red Poll	5,318	4·05	215·46	Victoria Bit-o-bacca
268	Princess of Linga Longa	R. S. Williams ..	Jersey	3,615	5·96	215·33	Dawn of Warenda
269	Winsome of Wayside ..	W. Harker ..	Ayrshire	5,345	4·03	215·29	Majesty of Fernhill
270	Heather of Invergordon	T. Knowles ..	,,	4,584	4·68	214·50	Holly's King of Retreat
271	Melba of the Wattles ..	N. H. Enders ..	Jersey	4,598	4·66	214·44	Choice Prince of Belgonia
272	Twylish's Princess of Leven Brae	T. R. Findlay ..	,,	4,772	4·48	213·76	Twylish's Fox of Colac
273	Longerenong Melody ..	Longerenong Agricultural College	Ayrshire	4,214	5·07	213·57	Aristocrat of Woongarra
274	Alma of Grandview ..	R. Masters ..	,,	5,135	4·16	213·38	Lang of Gleneira
275	Gipsy Lass 2nd of Aberdour	A. Balsillie ..	Jersey	4,026	5·29	212·92	Lord 2nd of Bruce vale
276	Glengowrie Sunshade 2nd	A. T. N. Facey ..	Ayrshire	5,422	3·92	212·63	Bemaze of Oakbank
277	Victoria Melacca ..	Department of Agriculture, Werribee	Red Poll	4,694	4·52	212·16	Victoria Bit-o-bacca
278	Dalblair Pennant ..	Pinkerton Bros. ..	Ayrshire	5,651	3·74	211·09	Brilliant's Banner of Oakbank
279	Thirlmere Agnes ..	D. Harker ..	,,	4,689	4·50	210·85	Patrician of Thirlmere
280	River Glen Blossom ..	N. R. Gange ..	,,	5,682	3·70	210·39	Sterling of Gowrie Park
281	Bangle of Sparrovale ..	Geelong Harbour Trust	,,	5,003	4·20	209·90	Alpha of Sparrovale
282	Tregorland Kersey ..	J. F. Tuckey ..	,,	5,190	4·04	209·76	Tregorland Idealist
283	Queenie 11th of Willow Park	W. K. Atkinson ..	Milking Shorthorn	5,580	3·76	209·60	Reliance of Willow Park
284	Studleigh's Empire ..	D. Cameron and Sons	Jersey	2,977	7·02	208·85	Lord 5th of Bruce vale
285	Glengowrie Eunice ..	A. T. N. Facey ..	Ayrshire	4,962	4·21	208·78	Bemaze of Oakbank
286	Maiwand Princess ..	G. Esler	Jersey	4,251	4·90	208·19	Duke of Belgonia
287	Yorkshire Oakwood Cordyline	J. Plattfuss ..	Friesian	5,070	4·09	207·61	Dominion Oakwood
288	Tregorland Trier ..	J. F. Tuckey ..	Ayrshire	4,304	4·82	207·50	Sir Fancy White of Tregorland
289	Ben Kell Pixie ..	D. Ralston ..	,,	4,421	4·69	207·32	Master of Ben Kell
290	Muriel of Cathcart ..	A. W. Gorman ..	,,	4,044	5·10	206·18	Poppy's Advance of Ben Kell
291	Dainty Lass of Carney Dell	A. C. Willis ..	Jersey	4,491	4·57	205·24	Gold Lad of Clover Flat
292	Rosecleigh Countess ..	G. Gange ..	Ayrshire	5,340	3·84	204·82	Oakbank Reply
293	Glengowrie Eleanor ..	A. T. N. Facey ..	,,	4,902	4·16	203·95	Bemaze of Oakbank
294	Coral of Paisley ..	J. Clyne	Jersey	4,034	5·02	202·89	Star of Somerville
295	Pansy Leaf of Welbourne	Geo. Rowe ..	,,	3,229	6·28	202·81	Sparklight's Duke of Glen Iris
296	Phoebe of Sparrovale ..	Geelong Harbour Trust	Ayrshire	4,433	4·56	202·32	Alpha of Sparrovale
297	Tregorland Tourmaline	J. F. Tuckey ..	,,	4,880	4·13	201·73	Tregorland Idol
298	Graceful Duchess 41st ..	W. Woodmason ..	Jersey	3,317	6·05	200·76	Sunset of Melrose
299	Maiwand Beauty ..	G. Esler	,,	4,169	4·80	200·07	Ivanhoe of Winton
300	Spring Mount Nelly Kelly	A. H. Schier ..	Ayrshire	5,120	3·88	198·49	Milo of Range View
301	Bouvardia 3rd of Springhurst	J. D. Read ..	Jersey	4,629	4·24	196·10	Alloy of Banyule
302	Spec of Linga Longa ..	Mrs. I. Beard ..	,,	3,167	6·19	195·88	Modesta Jolly Boy
303	Gala Rosevale Pauline	W. Regnier ..	Friesian	5,645	3·47	195·77	Rosevale Korndyke Colontha
304	Sunshine 9th of Brookfield	W. Parbury ..	Jersey	4,079	4·79	195·49	Werribee Wyandotte's Star
305	Woolamai Rose ..	G. A. Kent ..	Ayrshire	4,739	4·12	195·37	Statesman of Gowrie Park
306	Sunshine 7th of Brookfield	W. Parbury ..	Jersey	4,103	4·76	195·34	Werribee Wyandotte's Star
307	Holly Green Fancy ..	H. L. Webb ..	Ayrshire	5,520	3·53	194·79	Lily's Record of Holly Green
308	Cloverlea Lady Twylish	A. Balsillie ..	Jersey	4,259	4·56	194·20	His Majesty of Somerville
309	Lucy of Jersey Vale ..	L. Orchard ..	,,	3,992	4·85	193·51	Choice 2nd of Tarnpirr
310	Clementine 3rd of Brookfield	W. Parbury ..	,,	4,175	4·63	193·29	Werribee Wyandotte's Star
311	Balm of Sparrovale ..	Geelong Harbour Trust	Ayrshire	3,830	5·05	193·23	Alpha of Sparrovale
312	Tregorland Ivoline ..	J. F. Tuckey ..	,,	4,593	4·19	192·43	Bonnie Bloom of Gowrie Park
313	Longerenong Ivy ..	Longerenong Agricultural College	,,	4,556	4·20	191·31	Aristocrat of Woongarra
314	Bona Vista Gentle ..	T. Knowles ..	,,	4,688	4·04	189·18	Bona Vista Model

JUNIOR 2 YEAR OLD. (UNDER 2½ YEARS.) 200 LB. STANDARD—*continued.*

Order of Merit.	Cow.	Owner.	Breed.	Milk.	Average Test.	Butter Fat.	Sire.
				lb.		lb.	
315	Woolamai Dinah ..	G. A. Kent ..	Ayrshire	4,631	4·07	188·29	Statesman of Gowrie Park
316	Jessie of Jersey Vale ..	Mrs. L. Orchard ..	Jersey	3,331	5·65	188·17	Choice of Tarnpirr
317	Sweet Briar of Carney Dell	A. C. Willis ..	,,	4,400	4·25	187·14	Glad Lad of Clover Flat
318	Butterfly of Fairbanks	A. J. Schilpalius ..	,,	3,407	5·43	184·99	High Choice of Melrose
319	Golden Vixen of Woods	J. Cook	,,	3,564	5·15	183·51	Golden 2nd of Jersey Vale
320	Magnolia Wyandotte of Lea Hurst	C. N. Runciman ..	,,	3,361	5·45	183·47	Consul of Lea Hurst
321	Modesty of Wattle Vale	D. E. Cook ..	,,	3,399	5·35	181·71	Duke of Melrose
322	Foxglove of Jersey Meadows	J. Chadderton ..	,,	3,324	5·45	181·31	Joffre of Comely Banks
323	Longerenong Periwinkle	Longerenong Agricultural College	Ayrshire	3,837	4·68	179·74	Aristocrat of Woongarra
324	Coilsfield Favourite ..	A. H. Schier ..	,,	4,271	4·20	179·47	Coilsfield Prince
325	Scotswood Better Still	A. H. Schier ..	,,	4,460	3·98	177·55	Scotswood Aristocrat
326	Glengowrie Sunshine 2nd	A. T. N. Facey ..	,,	5,127	3·44	176·61	Liberty of Lady Bank
327	Scotswood Bud ..	A. H. Schier ..	,,	4,106	4·25	174·59	Bellboy of Oakbank
328	Rose's Princess of Franklin Park	W. A. Sandles ..	Jersey	3,349	5·18	173·54	Monash of Melrose
329	Comfrey 2nd of Springhurst	J. D. Read ..	,,	3,443	4·99	171·94	Othman of Springhurst
330	Wood Aurora's Cream Duchess	J. Cook	,,	3,149	5·43	171·14	Cream Duke of Glen Iris
331	Spotlight of Welbourne	Geo. Rowe ..	,,	2,822	6·05	170·71	Sparklight's Duke of Glen Iris
332	Burnbank de Kol Kroons	C. L. V. Sharp ..	Friesian	5,172	3·30	170·42	Winlaton de Kol Kroons
333	Melba of Jersey Vale ..	L. Orchard ..	Jersey	3,228	5·26	169·85	Choice 2nd of Tarnpirr
334	Scotswood Mamie's Mischief	A. H. Schier ..	Ayrshire	3,410	4·95	168·74	Bellboy of Oakbank
335	Sapphire 2nd of Lea Hurst	C. N. Runciman ..	Jersey	2,849	5·88	167·51	Consul of Lea Hurst
336	Silk Stockings 4th of Lea Hurst	C. N. Runciman ..	,,	3,197	5·23	167·17	Consul of Lea Hurst
337	Songstress 7th of Brookfield	W. Parbury ..	,,	3,186	5·23	166·76	Werribee Wyandotte Star
338	Scotswood Queen of Scots	A. H. Schier ..	Ayrshire	3,378	4·90	165·37	Bellboy of Oakbank
339	Mercedes' Belle 3rd of Avalon	G. A. McNabb ..	Jersey	3,574	4·60	164·24	Mercedes' Chief of Glen Iris
340	Bona Vista Marcia 2nd	J. G. Lobb ..	Ayrshire	4,056	4·01	162·66	Bona Vista Model
341	Sparrovale Petal ..	Geelong Harbour Trust	,,	3,255	4·94	160·76	Alpha of Sparrovale
342	Tregorland Kiss ..	J. F. Tuckey ..	,,	3,555	4·52	160·60	Larus of Gowrie Park
343	Jessie 42nd's Queenie of Welbourne	Geo. Rowe ..	Jersey	3,501	4·58	160·21	Beauty's Prince of Somerville
344	Gipps Clorinda ..	Warragul High School	Red Poll	4,199	3·79	158·94	Victoria King Merlin
345	Peach II. of Swansea ..	Jas. Clyne ..	Jersey	3,080	5·09	156·74	Lily's Progress 2nd of Swansea
346	Meg of Holly Green ..	H. L. Webb ..	Ayrshire	3,476	4·29	149·01	Algie of Holly Green
347	Roseneath Frolic ..	R. Goodman ..	,,	2,964	4·92	145·82	Triumph of Burnside
348	Last Choice of Woorayl	Leongatha High School	Jersey	2,100	6·91	145·15	Cream Duke of Glen Iris
349	Empress 7th of Jerseyholm	T. Harvey ..	,,	2,694	5·17	139·23	Marge 2nd's Hero of Jerseyholm
350	Scotswood Silvermine ..	A. H. Schier ..	Ayrshire	3,300	4·07	134·30	Bellboy of Oakbank
351	Gipps Iseult	Warragul High School	Red Poll	3,291	4·05	133·37	Victoria King Merlin
352	Scotswood Streak ..	A. H. Schier ..	Ayrshire	3,089	4·05	125·20	Scotswood Principal Boy
353	Roseneath Goldleaf ..	R. Goodman ..	,,	3,150	3·80	119·78	Federal of Roseneath
354	Scotswood Merry Lass	A. H. Schier ..	,,	2,280	5·02	114·37	Mamie's Prince
355	Fulham Betty ..	Cockbill Bros. ..	,,	2,070	5·21	107·78	The Laird of Sparrovale
356	Scotswood Snowdrop ..	A. H. Schier ..	,,	2,310	4·43	102·24	Bellboy of Oakbank
357	Scotswood Joan ..	A. H. Schier ..	,,	2,205	4·10	90·41	Scotswood Principal Boy
358	Lycoris of Elimatta ..	H. Dettman ..	Jersey	1,848	4·65	86·04	Nyland Merry Boy
359	Fulham Advance ..	Cockbill Bros. ..	Ayrshire	1,560	4·83	75·28	His Majesty of Wethersdane
360	Tregorland Kokak ..	J. F. Tuckey ..	,,	1,650	3·82	63·09	Larus of Gowrie Park

Average Yield per Cow of Each Herd in Standard Test for 1927-28.

Owner.	Breed.	Junior 2.		Senior 2.		Junior 3.		Senior 3.		Junior 4.		Senior 4.		Mature.		Total Number of Cows.	Average Butter Fat.	With Allowances. Average Butter Fat.
		No.	Average Butter Fat.	No.	Average Butter Fat.	No.	Average Butter Fat.	No.	Average Butter Fat.	No.	Average Butter Fat.	No.	Average Butter Fat.	No.	Average Butter Fat.			
			lb.		lb.		lb.		lb.		lb.		lb.		lb.		lb.	lb.
1. P. J. Maloney ..	Jersey ..	5	414·31	..	..	1	431·52	1	489·09	1	429·08	2	512·21	5	550·03	15	479·72	555·55
2. O. J. Syme	Friesian ..	3	352·81	1	289·44	3	416·72	2	364·29	2	404·73	..	..	6	533·93	17	431·74	506·42
3. F. Trevaskis ..	Jersey ..	2	336·75	3	387·73	..	..	2	420·21	1	306·96	1	461·97	1	631·47	10	407·75	497·75
4. A. A. Broad ..	,, ..	5	348·75	4	399·61	..	..	..	..	3	442·86	..	..	5	443·53	17	405·20	493·05
5. G. Lyon	,, ..	3	341·76	..	..	7	368·76	1	476·12	4	395·96	1	482·91	7	451·49	23	404·78	479 32
6. F. Austin	,, ..	7	309·11	2	414·82	2	317·48	3	354·18	2	465·15	..	..	3	414·04	19	361·23	466·78
7. T. Mesley	,, ..	3	330·20	3	323·19	2	331·52	1	382·33	2	373·36	2	490·40	1	435·38	14	369·17	485·46
8. J. Platfuss ..	Friesian ..	7	273·01	2	315·22	3	269·35	3	415·44	2	483·02	1	488·08	4	488·51	22	383·82	463·45
9. A. J. Mapleson ..	Jersey ..	4	268·80	2	304·57	1	309·79	2	404·73	2	409·32	1	467·88	7	457·43	19	383·80	457·71
10. J. D. Read	,, ..	14	261·80	4	336·93	4	375·36	..	..	1	282·53	3	408·81	6	449·03	32	335·09	443·74
11. G. Esler	,, ..	4	245·09	..	..	3	398·14	1	447·76	1	371·20	1	509·21	4	376·49	14	357·76	439·76
12. J. Huffer	,, ..	1	272·25	2	404·39	1	445·85	1	418·18	1	260·08	1	413·05	4	368·36	11	371·97	436·56
13. F. Harvey	,, ..	3	235·42	2	345·64	1	426·90	..	..	1	418·89	..	..	4	407·41	11	352·03	434·65
14. J. E. Handbury & Sons	,, ..	4	300·02	2	273·18	1	340·76	..	..	..	..	..	..	5	415·96	12	347·25	432·42
14. J. V. M. Wood ..	,, ..	7	283·55	2	328·65	3	344·43	3	357·81	2	344·79	..	..	4	374·21	21	330·25	432·42
15. H. V. McLeod ..	,, ..	4	306·22	..	..	..	..	..	..	1	308·44	1	466·23	5	402·49	11	364·73	431 59
16. W. Axford	,, ..	5	279·18	1	365·08	..	..	..	..	1	356·22	1	422·28	6	404·87	14	354·91	429·77
17. J. Clyne	,, ..	6	251·99	1	396·96	..	..	..	..	2	434·71	..	..	1	389·02	10	316·73	429·23
18. T. R. Findlay ..	,, ..	7	265·70	3	354·62	1	332·56	2	316·24	..	..	..	..	2	324·77	15	302·55	421·72
19. Department of Agriculture	Red Polled	9	254·02	7	293·50	3	327·42	4	314·03	5	312·07	4	357·28	10	364·51	42	314·61	411·21
20. J. Anderson ..	Jersey ..	6	273·66	1	312·73	3	286·54	1	347·90	1	273·94	..	..	3	373·16	15	303·71	407·88
21. Simpson & Son ..	,, ..	5	274·96	1	301·00	..	..	..	..	1	251·46	2	293·29	8	399·24	17	335·75	401·60
22. W. K. Atkinson ..	Milking Shorthorn	7	261·70	1	266·15	9	288·87	3	326·94	2	243·90	1	345·88	10	427·52	33	326·90	400·38
23. W. Woodmason ..	Jersey ..	4	238·72	2	311·66	1	361·40	4	312·43	2	392·63	2	354·27	11	360·69	26	332·72	399·56
24. Aveley Stud Farm ..	,, ..	3	278·61	..	..	2	234·89	1	278·40	1	340·14	..	..	6	401·09	13	333·13	393·25
25. Department of Agriculture	Friesian ..	1	256·68	..	..	3	314·78	3	279·68	1	362·04	2	457·79	4	349·57	14	336·85	399·21
26. E. Howlett	Jersey ..	4	274·48	..	..	1	397·79	3	315·32	1	414·03	2	353·77	5	334·09	16	327·11	393·17
27. L. Lowing	,, ..	7	252·56	4	261·15	2	255·24	3	311·82	1	300·76	1	408·52	1	354·81	19	280·13	397·53
28. Leongatha Agricultural High School	,, ..	4	259·11	..	..	3	232·15	1	314·51	..	..	1	396·13	3	386·93	12	300·36	389·69
29. W. Henderson, Home Farm	Ayrshire ..	..	..	1	279·50	..	..	2	349·92	1	289·27	1	294·85	14	378·47	19	361·16	389·08
30. W. Gorman ..	,, ..	2	215·54	2	301·57	2	275·93	2	325·94	1	269·93	..	..	2	365·09	11	294·37	386·23
31. G. Gauge	,, ..	7	234·59	2	257·57	4	276·52	..	..	1	301·92	3	357·95	3	331·70	20	281·71	382·96
32. N. C. De La Rue ..	Jersey ..	3	260·64	1	239·93	1	279·63	2	330·87	1	316·29	..	..	3	332·65	11	297·95	377·50
33. Miss O. L. Robinson ..	,, ..	4	270·17	2	265·15	2	269·54	..	..	2	251·68	..	..	10	344·42	20	304·88	372·68
34. J. Phillips	,, ..	1	219·97	4	270·85	1	205·95	..	..	..	..	1	352·94	3	349·49	10	291·07	368·57
35. A. T. N. Facey ..	Ayrshire ..	8	221·50	2	229·76	..	..	..	..	2	293·43	..	..	1	311·62	13	240·77	366·50
36. Geelong Harbour Trust	,, ..	8	221·12	..	..	3	281·38	..	..	..	..	..	..	8	333·53	19	277·96	366·41
37. T. Knowles ..	,, ..	7	235·40	1	253·09	..	..	..	..	..	..	..	..	2	265·94	10	243·26	360·78
38. D. E. Cook	Jersey ..	3	233 14	..	..	1	311·95	1	347·93	2	280·31	..	..	9	331·78	16	305·62	359·93
39. W. Parbury ..	,, ..	10	228·41	1	243·97	2	281·91	1	182·79	5	301·33	3	294·97	4	280·75	26	261·13	359·70
40. G. Kent	Ayrshire ..	4	211·98	1	228·84	3	249·91	..	..	2	288·86	..	..	3	332·54	13	261·68	354·72
41. Messrs. Cockbill Bros.	,, ..	6	215·88	1	184·49	1	342·12	2	178·80	1	344·01	2	292·37	1	340·54	14	246·33	351·54

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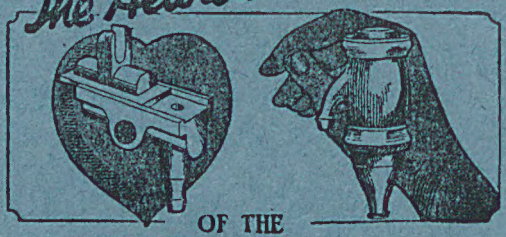

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